

**EXPANDED PRE-CERCLIS SCREENING ASSESSMENT  
BGF INDUSTRIES  
SCR 000 075 671  
CHERAW, SOUTH CAROLINA  
CHESTERFIELD COUNTY**

**Prepared for:**



**U.S. ENVIRONMENTAL PROTECTION AGENCY**

**Region 4  
61 Forsyth Street  
Atlanta, Georgia 30303**

**Prepared by:**



**South Carolina Department of Health and Environmental Control  
Division of Site Assessment and Remediation  
Federal & State Site Assessment Section  
2600 Bull Street  
Columbia, South Carolina 29201**

**September 25, 2017**

A handwritten signature in black ink, appearing to read "Robert Cole".

**Prepared by:**

**Robert Cole  
Environmental Health Manager  
DHEC**

A handwritten signature in black ink, appearing to read "Jonathan McInnis".

**Reviewed by:**

**Jonathan McInnis  
Program Manager  
DHEC**

**JEFFERY CROWLEY** Digitally signed by  
JEFFERY CROWLEY  
Date: 2017.09.27  
11:10:57 -04'00'

**Approved by:**

**Jeffery Crowley, RPM  
Superfund Site Evaluation  
Section, USEPA Region IV**

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## **1.0 INTRODUCTION**

Under the authority of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) and the Superfund Amendments and Reauthorization Act of 1986 (SARA), the Site Assessment Section, South Carolina Department of Health and Environmental Control (DHEC) has conducted an Expanded Pre-CERCLIS Screening Assessment (PSA) for the BGF Industries site in Chesterfield County, South Carolina. The information gathered from this investigation will be used to decide if the site will be placed on CERCLIS or managed by some other means.

## **2.0 LOCATION**

The site is located at 90 Huger Street, Cheraw, South Carolina in Chesterfield County. The facility is located on property totaling 6.33 acres, and is bounded by residential areas to the north and northwest, a rail line along the southeastern edge and residential areas to southwest and northeast (Ref. 1, 2). See Figures 1 and 2 in Appendix A for site location. The geographic coordinates of the site are at Latitude: 34.691935° N; Longitude: -79.884721° W (Appendix B).

## **3.0 OWNERSHIP**

### **Previous Owners:**

1948 – 1960	Cheraw Weaving Mill
1960 – 1988	Burlington Industries (Pee Dee Plant)
1988 – present	BGF Industries

Parcel ID: 272-001-006-003

Ref. 3, 4

## **4.0 SITE HISTORY / DESCRIPTION**

The site was residential or unused prior to 1948. The property was purchased in 1948 and a textile facility was built by Cheraw Weaving Mill, which lasted until 1960. In 1958, Cheraw Weaving was manufacturing acetate and Fortisan drapery materials (Ref. 3, 4). Burlington Industries acquired the property in 1960 (Ref. 3). The plant became Burlington's Pee Dee plant, and they used the facility primarily for weaving. Finishing in the form of dyeing and printing were performed at some periods (Ref. 5). The facility was expanded in 1964 to include additional weaving, warehousing and screen-printing (Ref. 6). In the 1970s, Burlington applied for the construction of a chemical pretreatment system for their wastewater. The system was to include recycling capabilities comprising units for neutralization, chemical precipitation, dissolved air flotation and sludge handling (Ref. 7). Ultimately, the treated wastewater would be discharged to the sewer for the Town of Cheraw. The system was removed prior to BGF acquiring the property in 1988 (Ref. 5, 6).

BGF weaves carbon and other synthetic fibers for industrial uses (Ref. 5). BGF conducted a Phase I Environmental Site Assessment and Compliance Review in 1998 at the site. The following concerns were noted in the report (Ref. 6):

- 1) The former wastewater treatment system;
- 2) Former 7,000-gallon varsol tank;
- 3) Former 4,000-gallon vynol tank;
- 4) Former 10,000-gallon fuel oil UST;
- 5) Former 5,000-gallon fuel oil UST; and
- 6) Former 500-gallon gasoline AST.

A Limited Phase II Environmental Assessment was conducted in 1998. The tanks had been removed prior to BGF acquiring the property. Results from soil and groundwater samples indicated the presence of RCRA metals, Total Petroleum Hydrocarbon-Diesel Range Organics and volatile organics (VOCs) in soil, and RCRA metals, VOCs and polyaromatic hydrocarbons in groundwater (Ref. 8). Subsequent installation of monitoring wells in 2000 found residual fuel and solvents in a small area of groundwater near some of the former tanks. Monitored Natural Attenuation (MNA) was proposed and conducted, including groundwater analysis on a regular basis. Exponential declines have been observed in contaminant levels. VOC reporting focuses on tetrachloroethene, trichloroethene and cis-1,2-dichloroethene. Typical recent measurements are less than 5 µg/l or ppb (Ref. 9). In June 2013, SCDHEC agreed to a five-year sampling schedule, with the next sampling round to be scheduled for the spring of 2018 (Ref. 10).

As a part of a wider investigation into polychlorinated biphenyl (PCB) contamination in the Cheraw area at a different former Burlington facility, SCDHEC conducted soil and sediment sampling at the BGF site in August 2017 (Ref. 15). Analysis was limited to PCBs and metals. Five surface soil samples focused on the area of the former wastewater unit and six sediment samples were collected from the adjacent ditch creek. Analysis of the samples found only slight (estimated) elevations of PCB1254 in on-site soil and sediment from the adjacent ditch. The levels were lower than EPA's screening levels. Two downgradient sediment samples did not detect any PCBs. See Figure 3 in Appendix A for a map of sample locations. See the pathways for more discussion of analytical results.

## **5.0 PATHWAY EVALUATION**

### **5.1 GROUNDWATER MIGRATION PATHWAY**

The site is underlain by the Coastal Plain physiographic province. The primary aquifers in the Cheraw area are the Black Creek and Middendorf aquifers (Ref. 11). Groundwater is used for drinking water in the region, but the nearest public well is nearly 2 miles southwest of the site (Ref. 1, 2). The Town of Cheraw municipal water system provides drinking water to the area surrounding the site, sourced from an upgradient location on the Great Pee Dee River (Ref. 1, 2). A receptor survey was conducted as part of previous environmental assessments, and no wells were found within one-quarter mile of the site (Ref. 12).

Previous groundwater investigations in the late 1990s (in a former UST area) found elevated concentrations of tetrachloroethene, trichloroethene and cis-1,2-dichloroethene. Continued



groundwater monitoring data has shown a steady and exponential decrease in concentrations. Typical recent measurements are less than 5 µg/l or ppb (Ref. 9). In June 2013, SCDHEC agreed to a five-year sampling schedule, with the next sampling round to be scheduled for the spring of 2018 (Ref. 10).

## **5.2 SURFACE WATER MIGRATION PATHWAY**

The BGF Industries site lies within the Pee Dee River Sub-basin. Most streams in this sub-basin are associated with extensive swamp areas and follow indistinct channels that often divide and recombine. Streams in this basin are likely to be dependent upon groundwater to support stream flow (Ref. 11). The ditch creek adjacent to the site flows to the northeast and then travels underground to the north towards the corner of Seaboard and Church Streets (Ref. 1). The path of the flow from this point is underground and the precise route is unknown, but the Pee Dee River is just over one-half mile east of the site. The Pee Dee River flows beyond the 15-mile Target Distance Limit (Ref. 1). The Pee Dee River is a known fishery (Ref. 16).

Sediment sampling for this investigation included the collection of six sediment samples from the adjacent ditch creek. See Figure 3 for sample locations. Analysis of the data found slight elevations in metals and PCB1254 compared to EPA's Sediment Screening Levels (ESVs), but no elevations were detected in the two downgradient locations. See Table 2 in Appendix A for a summary of the sediment data. Complete analytical data is available in reference 13.

## **5.3 SOIL EXPOSURE / AIR PATHWAYS**

The BGF Industries site is located in the Town of Cheraw, SC (Ref. 1). On-site soil is classified as Noboco Loamy soil and Woodington Sandy soil. Woodington makes up the majority of the area near the ditch creek and former wastewater unit. Woodington soil is poorly drained and may be hydric (potentially wetlands) (Ref. 14). The nearest school is approximately one-half mile west of the site, while the nearest daycare is approximately 0.3 miles to the northwest (Ref. 1). Access to the site is restricted by fencing and the facility is active (Ref. 1).

Four on-site soil samples were collected as part of this investigation. They were compared to an off-site background sample. Only one sample (collected from the mouth of a pipe in the former wastewater unit area) had any significantly elevated parameters. The sample may have contained some rust and small pieces from the associated piping. PCB1254 was detected at very low, estimated concentrations in on-site soil as well as the background location. No elevations were detected in downgradient sediment. See Figure 3 in Appendix A for sample locations. See Table 1 in Appendix A for a summary of soil data. Complete analytical data is available in reference 13.

## **6.0 SUMMARY AND CONCLUSIONS**

The BGF Industries site has been in use as a textile facility since 1948 (Cheraw Weaving Mill). During Burlington Industries ownership, some dyeing and finishing processes were conducted on-site. Since BGF ownership in 1988, the facility has been used as a weaving operation.

Previously detected groundwater contamination is being monitored and the most recent data shows levels below EPA screening levels. Sediment samples collected during this investigation found sporadic, estimated elevations of metals and PCB1254, but locations downgradient of the site found no elevated parameters. Similarly, a few on-site soil samples showed elevated metals and estimated concentrations of PCB1254, but the constituents are not elevated downgradient of the site.

Due to the lack of an observed release of contaminants to downgradient locations in the ditch creek, the BGF Industries site is not recommended for placement on CERCLIS. No further Superfund evaluations are necessary.

## 7.0 REFERENCES

1. Google Earth. Last accessed September 2017.
2. SCDHEC, Environmental Facility Information System (EFIS). Last accessed September 2017.
3. Chesterfield County Tax Information. Parcel ID TMS 272-001-006-010. September 2017. Copy attached.
4. Clark's Directory of Southern Textile Mills. Clark Publishing. 1958. Available at SCDHEC.
5. Groundwater Sampling and Analysis Plan: BGF Industries, Inc Cheraw Weaving Facility. Henry Nemargut Engineering Services. March 2013. Copy attached.
6. Phase I Environmental Assessment and Compliance Review: BGF Industries – Cheraw Plant. ATC Associates, Inc. November 1998. Copy attached (report only).
7. Construction Permit for Burlington Industries. Wastewater pretreatment. 1974. Copy attached.
8. Limited Phase II Environmental Site Assessment: BGF Industries, Inc. ATC Associates. November 1998. Copy attached (report only).
9. Groundwater Sampling 2013 Results. BGF Industries, Inc. Cheraw Weaving Facility. Henry Nemargut Engineering Services. April 2013. Copy attached (report only).
10. Judy Canova, SCDHEC. Letter to Greg Slominski, BGF Industries regarding groundwater sampling frequency. June 2013. Copy attached.
11. South Carolina Water Resources Commission. South Carolina State Water Assessment. 2008. Available at <http://www.dnr.sc.gov/water/hydro/HydroPubs/assessment.htm>.
12. Remonia Davis, BGF Industries. Receptor Survey for the BGF Industries plant in Cheraw. November 1998. Copy attached (report only).
13. United States Environmental Protection Agency, Region 4 Science and Ecosystem Support Division. Final Analytical report for Project 17-0517, BGF Industries. September 2017. Copy attached.
14. SoilWeb: An Online Soil Survey Browser.  
<http://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx>. Accessed in September 2017.
15. Robert Cole, SCDHEC. Trip Report for activities conducted August 23, 2017 at BGF Industries. Copy attached.
16. Hunting, Boating & Fishing in Cheraw. [http://www.cheraw.com/what\\_to\\_do.php?What-to-Do-Activities-to-Do-Hunting-Boating-Fishing-10](http://www.cheraw.com/what_to_do.php?What-to-Do-Activities-to-Do-Hunting-Boating-Fishing-10). Last accessed September 2017.

## APPENDIX A: FIGURES AND TABLES

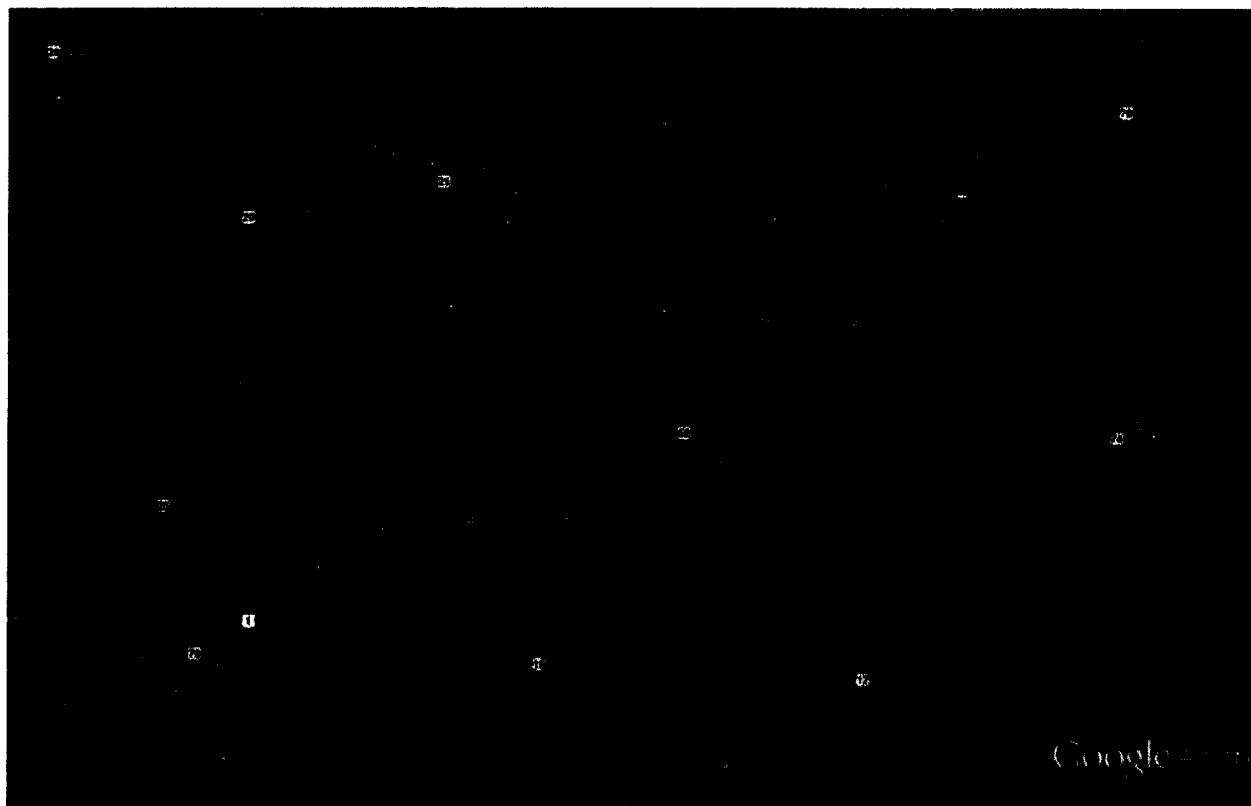
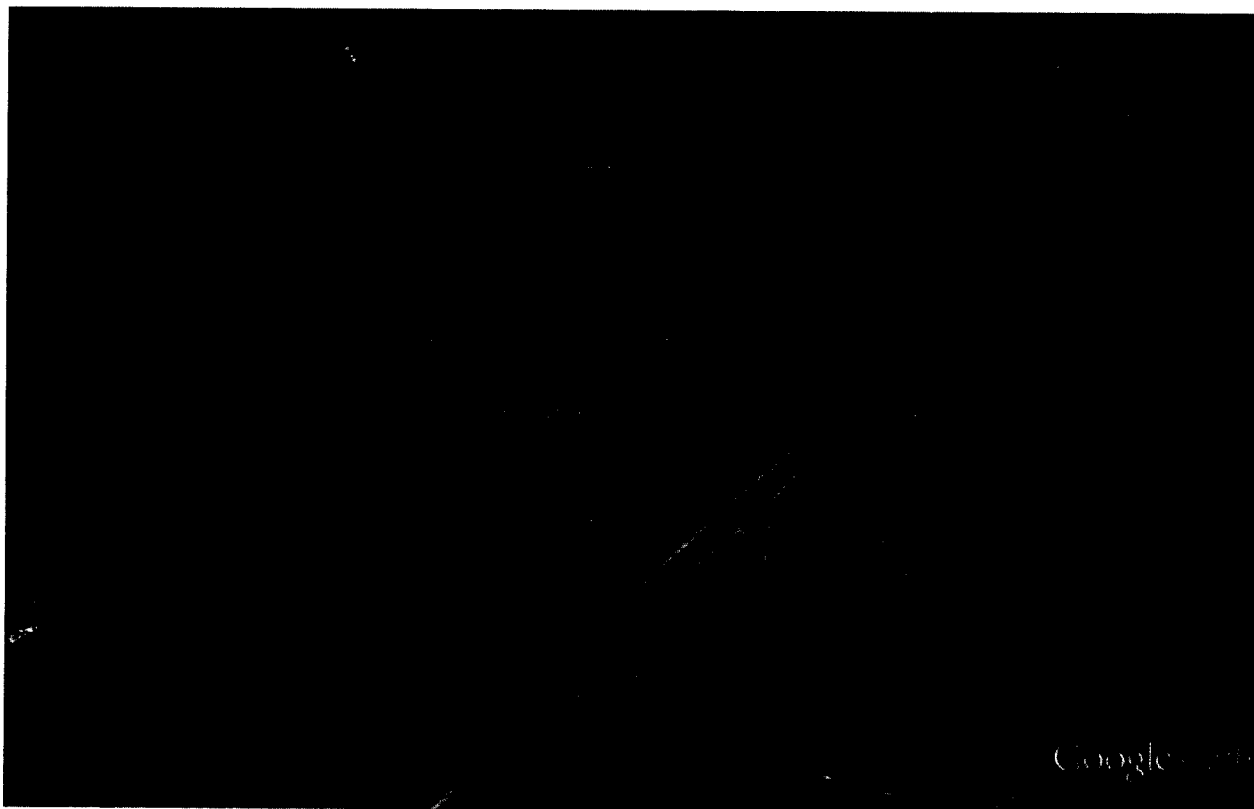


Figure 1 - General Location (Site identified by text and small red dot)



Figure 2 – BGF Industries – Detailed Location (2017 aerial) – *red outline is the site*



**Figure 3 – Sample Location Map – BGF Industries Expanded PSA – August 2017**

**Table 1 – Soil Sampling Summary – BGF Industries – August 2017 Expanded PSA**

	BGF-001-SF	BGF-002-SF	BGF-003-SF	BGF-004-SF	BGF-005-SF	USEPA Regional Screening Level - Residential
	BACKGROUND	Sludge-drying Beds	Former WW Piping	Low Drainage Area	Drainage Area	
Arsenic	1.9 mg/kg dry	0.32 mg/kg dry	<b>11 mg/kg dry</b>	1.7 mg/kg dry	1.3 mg/kg dry	0.68 mg/kg
Cadmium	0.29 mg/kg dry	0.1 U mg/kg dry	<b>5.7 mg/kg dry</b>	0.32 mg/kg dry	0.19 mg/kg dry	71 mg/kg
Chromium	11 mg/kg dry	2.1 mg/kg dry	<b>56 mg/kg dry</b>	5.3 mg/kg dry	4.5 mg/kg dry	NA
Copper	13 mg/kg dry	110 mg/kg dry	<b>2500 mg/kg dry</b>	18 mg/kg dry	14 mg/kg dry	3100 mg/kg
Nickel	2.2 mg/kg dry	1 U mg/kg dry	<b>46 mg/kg dry</b>	1.1 mg/kg dry	0.99 U mg/kg dry	1500 mg/kg
Silver	0.5 U mg/kg dry	0.5 U mg/kg dry	<b>13 mg/kg dry</b>	0.5 U mg/kg dry	0.5 U mg/kg dry	390 mg/kg
Zinc	120 mg/kg dry	19 mg/kg dry	<b>820 mg/kg dry</b>	73 mg/kg dry	72 mg/kg dry	23000 mg/kg

Notes:

U - undetected

blue shaded cells represent detections > 3X background concentrations

**Bold entries represent detections above screening levels**

**Table 2 – Sediment Sampling Summary – BGF Industries – Expanded PSA – August 2017**

	BGF-006-SD	BGF-007-SD	BGF-008-SD	BGF-009-SD	BGF-010-SD	BGF-011-SD	USEPA Region 4 Sediment Screening Values (ESV)
	BACKGROUND						
Antimony	0.2 U mg/kg dry	0.2 U mg/kg dry	<b>0.24 mg/kg dry</b>	0.67 mg/kg dry	0.2 U mg/kg dry	0.2 U mg/kg dry	2 mg/kg
Cadmium	0.098 U mg/kg dry	0.23 mg/kg dry	<b>0.16 mg/kg dry</b>	0.72 mg/kg dry	0.1 U mg/kg dry	<b>0.15 mg/kg dry</b>	1 mg/kg
Copper	7.4 mg/kg dry	54 mg/kg dry	38 mg/kg dry	<b>65 mg/kg dry</b>	10 mg/kg dry	11 mg/kg dry	31.6 mg/kg
Lead	21 mg/kg dry	40 mg/kg dry	50 mg/kg dry	<b>140 mg/kg dry</b>	24 mg/kg dry	31 mg/kg dry	35.8 mg/kg
Mercury	0.079 U mg/kg dry	0.3 mg/kg dry	<b>0.27 mg/kg dry</b>	<b>0.42 mg/kg dry</b>	0.096 mg/kg dry	0.08 U mg/kg dry	0.18 mg/kg
Nickel	0.98 U mg/kg dry	1 U mg/kg dry	0.99 U mg/kg dry	<b>2.3 mg/kg dry</b>	1 U mg/kg dry	1 U mg/kg dry	22.7 mg/kg
Zinc	17 mg/kg dry	83 mg/kg dry	57 mg/kg dry	<b>230 mg/kg dry</b>	51 mg/kg dry	53 mg/kg dry	121 mg/kg

Notes:

U - undetected

Blue shaded cells represent detections > 3X background or detections with undetected background concentrations

**Bold entries represent detections above screening levels**

## **APPENDIX B: SITE COORDINATE COLLECTION**

Site Latitude: 34.691935° N  
Site Longitude: -79.884721° W  
Feature Description: approximate site center

Collection Date: September, 2017

Note: Site Coordinates collected by photo interpretation in Google Earth (estimated accuracy -20 meters).

## **APPENDIX C:    PSA CHECKLIST**



## Attachment A: Pre-CERCLA Screening Checklist/Decision Form

This form is used in conjunction with a site map and any additional information required by the EPA Region to document completion of a Pre-CERCLA Screening (PCS). The form includes a decision on whether a site should be added to the Superfund program's active site inventory for further investigation. Select from available dropdown values for fields marked with an asterisk \*.

Region:  State/Territory:  Tribe: \_\_\_\_\_  
[Click here for the EPA Tribe Entity Mapping spreadsheet.](#) EPA ID No. (If Available) \_\_\_\_\_

Site Name: BGF Industries  
 Other Site Name(s): \_\_\_\_\_

Site Location: 90 Huger Street  
Cheraw (City) Chesterfield (County) 29520 + (State / Terr) (Zip+4)

If no street address is available \_\_\_\_\_  
 (Township-Range) (Section)

Checklist Preparer: Robert Cole/EHM 09/25/2017  
 (Name / Title) (Date)  
SCDHEC (803) 898-0787  
 (Organization) (Phone)  
2600 Bull Street colerb@dhec.sc.gov  
 (Street) (Email)  
Columbia Richland SC 29201 +  
 (City) (County) (State / Terr) (Zip+4)

Site Contact Info/Mailing Address: \_\_\_\_\_  
 \_\_\_\_\_

CERCLA 105d Petition for Preliminary Assessment?  If Yes, Petition Date (mm/dd/yyyy): \_\_\_\_\_

RCRA Subtitle C Site Status: Is site in RCRAInfo?  If Yes, RCRAInfo Handler ID #: \_\_\_\_\_

Ownership Type\*:  Additional RCRAInfo ID #(s): \_\_\_\_\_

Site Type\*:  State ID #(s): \_\_\_\_\_

Site Sub-Type\*:  Other ID #(s): \_\_\_\_\_

Federal Facility?  Federal Facility Owner\*: (Make selection) \_\_\_\_\_

Formerly Used Defense Site (FUDS)?  Federal Facility Operator\*: (Make selection) \_\_\_\_\_

Federal Facility Docket?  If Yes, FF Docket Listing Date (mm/dd/yyyy): \_\_\_\_\_

Federal Facility Docket Reporting Mechanism\*: (Make selection) \_\_\_\_\_

Native American Interest?  If Yes, list Tribe: \_\_\_\_\_

Additional Tribe (s): \_\_\_\_\_

## Attachment A: Pre-CERCLA Screening Checklist/Decision Form

## Site Description

Use this section to briefly describe site background and conditions if known or (easily) available, such as: operational history; physical setting and land use; site surface description, soils, geology and hydrogeology; source and waste characteristics; hazardous substances/contaminants of concern; historical releases, previous investigations and cleanup activities; previous regulatory actions, including permitting and enforcement actions; institutional controls; and community interest.

*Insert text here (if text exceeds size of text box, view all text on page 5):*

The site was residential or unused prior to 1948. The property was purchased in 1948 and a textile facility was built by Cheraw Weaving Mill, which lasted until 1960. In 1958, Cheraw Weaving was manufacturing acetate and Fortisan drapery materials. Burlington Industries acquired the property in 1960. The plant became Burlington's Pee Dee plant, and they used the facility primarily for weaving. Finishing in the form of dyeing and printing were performed at some periods. The facility was expanded in 1964 to include additional weaving, warehousing and screen-printing. In the 1970s, Burlington applied for the construction of a chemical pretreatment system for their wastewater. The system was to include recycling capabilities comprising units for neutralization, chemical precipitation, dissolved air flotation and sludge handling. Ultimately, the treated wastewater would be discharged to the sewer for the Town of Cheraw. The system was removed prior to BGF acquiring the property in 1988.

BGF weaves carbon and other synthetic fibers for industrial uses. BGF conducted a Phase I Environmental Site Assessment and

## Geospatial Information

Latitude: + 34.691935

Decimal Degree North (e.g., +38.859156)

Longitude: - 79.884721

Decimal Degree West (e.g., -77.036783)

Provide 4 significant digits at a minimum, more if your collection method generates them.

Except for certain territories in the Pacific Ocean, all sites in U.S. states and territories are located within the northern and western hemispheres and will have a positive latitude sign and negative longitude sign. The coordinate signs should be changed as necessary for sites in the southern and/or eastern hemispheres.

**Point Description:** Select the option below that best represents the site point for future reference and to distinguish it from any nearby sites.

- ☐ Geocoded (address-matched) Site Address  
☐ Site Entrance (approximate center of curb-cut)  
☒ Approximate Center of Site  
☐ Other Distinguishing Site Feature (briefly describe below):

**Point Collection Method:** Check the method used to collect the coordinates above and enter the date of collection.

- ☒ Online Map Interpolation  
☐ GPS (handheld, smartphone, other device or technology with accuracy range < 25 meters)  
☐ GPS Other (accuracy range is ≥ 25 meters or unspecified)  
☐ Address Matching: Urban  
☐ Address Matching: Rural  
☐ Other Method: \_\_\_\_\_

Collection Date (mm/dd/yyyy): \_\_\_\_\_

## POINT-SELECTION CONSIDERATIONS

- Often the best point is a feature associated with the environmental release or that identifies the site visually.
- Use the curb cut of the entrance to the site if there is a clear primary entrance and it is a good identifier for the overall location.
- The approximate center of the site (a guess at the centroid) is useful for large-area sites or where there are no appropriate distinguishing features.
- Use the geocoded address if that is the only or best option available, but if possible use something more representative for sites larger than 50 acres.

## Attachment A: Pre-CERCLA Screening Checklist/Decision Form

Complete this checklist to help determine if a site should be added to the Superfund Active site inventory. See Section 3.6 of the PCS guidance for additional information.	YES	NO	Unknown
1. An initial search for the site in EPA's Superfund active, archive and non-site inventories should be performed prior to starting a PCS. Is this a new site that does not already exist in these site inventories?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Is there evidence of an actual release or a potential to release?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Are there possible targets that could be impacted by a release of contamination at the site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4. Is there documentation indicating that a target has been exposed to a hazardous substance released from the site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5. Is the release of a naturally occurring substance in its unaltered form, or is it altered solely through naturally occurring processes or phenomena, from a location where it is naturally found?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
6. Is the release from products which are part of the structure of, and result in exposure within, residential buildings or business or community structures?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
7. If there has been a release into a public or private drinking water supply, is it due to deterioration of the system through ordinary use?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
8. Are the hazardous substances possibly released at the site, or is the release itself, excluded from being addressed under CERCLA?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
9. Is the site being addressed under RCRA corrective action or by the Nuclear Regulatory Commission?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
10. Is another federal, state, tribe or local government environmental cleanup program other than site assessment actively involved with the site (e.g., state voluntary cleanup program)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Is there sufficient documentation or evidence that demonstrates there is no likelihood of a significant release that could cause adverse environmental or human health impacts?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Are there other site-specific situations or factors that warrant further CERCLA remedial/integrated assessment or response?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

## Attachment A: Pre-CERCLA Screening Checklist/Decision Form

Preparer's Recommendation: ☐ Add site to the Superfund active site inventory.

☒ Do not add site to the Superfund active site inventory.

Please explain recommendation below:

### PCS Summary and Decision Rationale

Use this section to summarize PCS findings and support the decision to add or not add the site to the Superfund active site inventory for further investigation. Information does not need to be specific but, where known, can include key factors such as source and waste characteristics (e.g., drums, contaminated soil); evidence of release or potential release; threatened targets (e.g., drinking water wells); key sampling results (if available); CERCLA eligibility; involvement of other cleanup programs; and other supporting factors.

*Insert text here (if text exceeds size of text box, view all text on page 6):*

The BGF Industries site has been in use as a textile facility since 1948 (Cheraw Weaving Mill). During Burlington Industries ownership, some dyeing and finishing processes were conducted on-site. Since BGF ownership in 1988, the facility has been used as a weaving operation.

Previously detected groundwater contamination is being monitored and the most recent data shows levels below EPA screening levels. Sediment samples collected during this investigation found sporadic, estimated elevations of metals and PCB1254, but locations downgradient of the site found no elevated parameters. Similarly, a few on-site soil samples showed elevated metals and estimated concentrations of PCB1254, but the constituents are not elevated downgradient of the site.

Due to the lack of an observed release of contaminants to downgradient locations in the ditch/creek, the BGF Industries site is not

Site Assessor: Robert Cole

Print Name/Signature

09/25/2017

Date

### EPA Regional Review and Pre-CERCLA Screening Decision

Add site to the Superfund active site inventory for completion of a:

- ☐ Standard/full preliminary assessment (PA)
- ☐ Abbreviated preliminary assessment (APA)
- ☐ Combined preliminary assessment/site inspection (PA/SI)
- ☐ Integrated removal assessment and preliminary assessment
- ☐ Integrated removal assessment and combined PA/SI
- ☐ Other: \_\_\_\_\_

Do not add site to the Superfund active site inventory. Site is:

- ☐ Not a valid site or incident
- ☐ Being addressed by EPA's removal program
- ☐ Being addressed by a state cleanup program
- ☐ Being addressed by a tribal cleanup program
- ☐ Being addressed under the Resource Conservation and Recovery Act
- ☐ Being addressed by the Nuclear Regulatory Commission
- ☐ Other: \_\_\_\_\_

EPA Regional  
Reviewer: \_\_\_\_\_

Print Name/Signature

Date

Site Description

*(All text as entered on page 2)*

PCS Summary and Decision Rationale

*(All text as entered on page 4)*

**APPENDIX D: ATTACHED REFERENCES**

BFG Industries, Inc.  
Chesterfield County  
PCAS—5879, File—56652



TMS 272-001-006-003

Main Facility, Owner: BGF Industries, Inc.

TMS 272-001-006-010

Suspect property, Owner: William B. Talley & Frazier Ayers Modestine

TMS 272-001-006-018

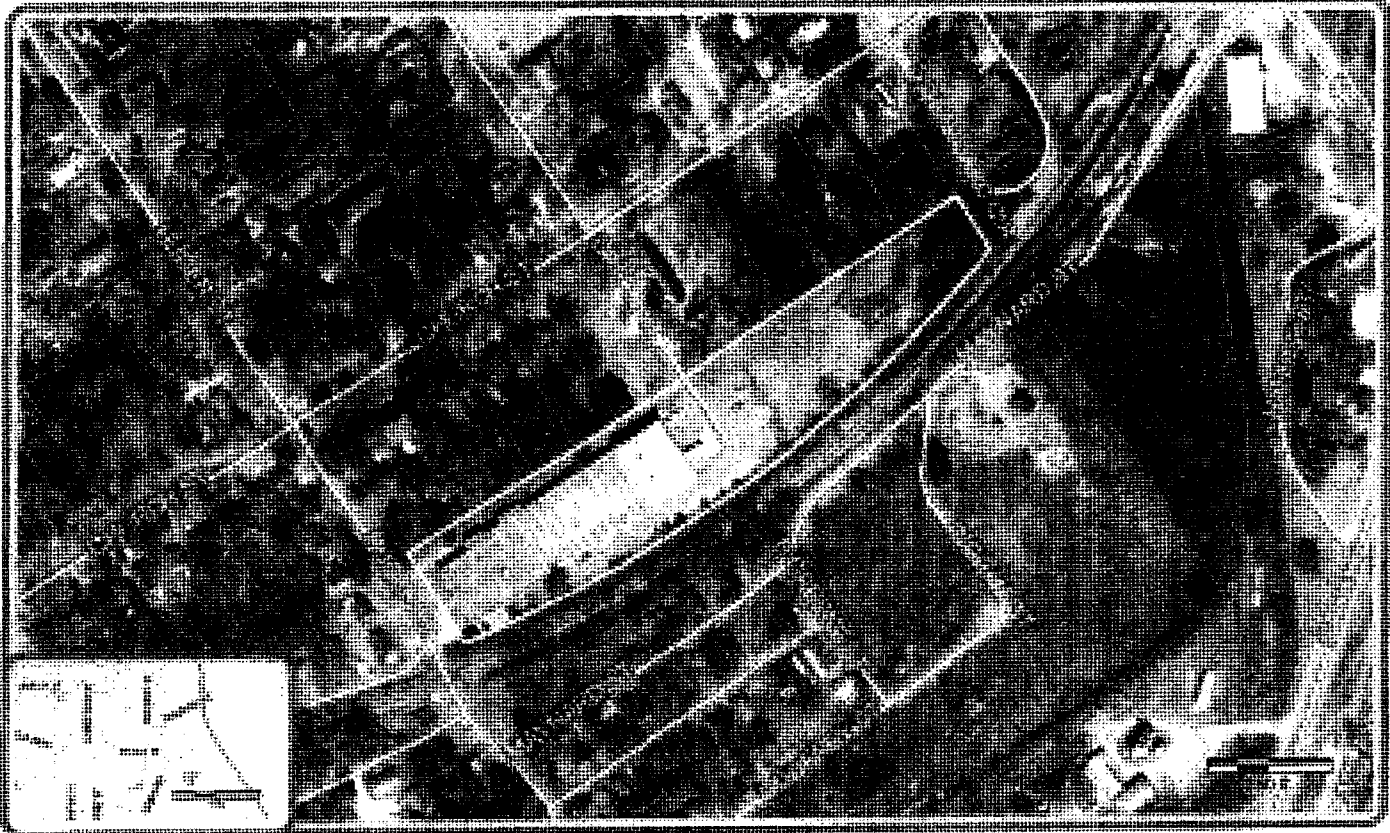
Owner: Mercy Ministries, Inc.



(A)

# Parcel Information Report

272 001 006 003



## General Information

3198

Map Number 272 001 006 003	Legal Description1	Plat Book 55
Owner Name BGE INDUSTRIES INC	Legal Description2 010 007 003 001	Plat Page 169
Mailing Address1	Total Acreage 0	Description Location1
Mailing Address2 3330 W FRIENDLY AVE	Deed Book 305	Description Location2
Mailing Address3 GREENSBORO NC	Deed Page 41	Sale Price 40.00
Zip Code 27420	Class1 Code TC	Sale Date 1900/01/01
Physical Address 0	Square Feet 0	
Year Built 0	Total Number Acres 0	
Market Acres 0	Total Number Bldgs 3	
Market Appraisal 0	Total Number Lots 0	
Market Lots 0		

**CHESTERFIELD COUNTY, S.C**  
**PROPERTY TAX NOTICE**  
**TAX YEAR 2016**

**CHESTERFIELD COUNTY KATHY SHEELER**  
**COUNTY TREASURER**  
**P.O. BOX 750**  
**CHESTERFIELD, S.C. 29709**

RECEIPT NUMBER 38216163	PROPERTY VALUATION	TAX LEVY	PROPERTY TAX
COUNTY OF			
TOWN OF			

MAP REF # 272 001 006 003			FIRE DISTRICT 00	
DISTRICT	NO.ACRES	#LOTS	LAND APPRAISAL	LAND ASSESSMENT
00	999999.99	9999		0
TN CODE	PERSONAL APPRAISAL	#BLDGS	BLDG APPRAISAL	BLDG ASSESSMENT
		9999		27300
	PERSONAL ASSESSMENT		TOTAL APPR VALUE	TOTAL ASSED VALUE
			9999999999	31500

	COUNTY	CITY	TOTAL
PROPERTY TAX			
LESS EXEMPTION			
LESS SCHOOL TAX CREDIT			

LESS LOCAL OPTION SALES TAX	
PLUS FIRE DISTRICT FEE	
NET AMOUNT DUE	PAY THIS AMOUNT
<b>PAY THIS AMOUNT BY: 01/17/2017</b>	<b>\$13,093.09</b>

SCHOOL OPERATIONS	COUNTY OPERATIONS	CO. DEBT SERVICE	N.E.TEC. COLLEGE
FIRE DISTRICT LEVY	RESCUE SQUADS		MUNICIPAL TAX

DESCRIPTION OF REAL OR PERSONAL PROPERTY
C/O HUGER ST CHERAW
NAME AND ADDRESS
BGF INDUSTRIES INC
3802 ROBERT PORCHER WAY GREENSBORO NC 274102190

BGF INDUSTRIES INC

TAX YEAR 2016	TAX MAP NUMBER 272 001 006 003
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PRIOR YEAR AMOUNT
PROPERTY C/O HUGER ST
DESCRIPTION CHERAW
APPRAISED VALUE (TAXABLE)
PROPERTY TAX AMOUNT (COUNTY)
PROPERTY TAX AMOUNT (CITY)
LESS EXEMPTION (COUNTY)
LESS EXEMPTION (CITY)
LESS SCHOOL TAX CREDIT
LESS SALES TAX CREDIT (COUNTY)
LESS SALES TAX CREDIT (CITY)
PLUS FIRE DISTRICT 00 FEE

CITY PROPERTY MAINTENANCE FEE
<b>PAY THIS AMOUNT BY 01/17/2017 \$13,093.09</b>

IF YOUR MORTGAGE CO. IS RESPONSIBLE FOR PAYING YOUR TAXES. PLEASE FORWARD A COPY OF THIS NOTICE TO THEM.

PENALTY AMOUNTS DUE AFTER JANUARY 17, 2017	
TAX +3% DUE AFTER JANUARY 17, 2017	\$0.00
TAX +10% DUE AFTER FEBRUARY 1, 2017	\$0.00
TAX +15% + \$6.00 COST DUE AFTER MARCH 16, 2017	\$0.00

# **Groundwater Sampling and Analysis Plan**

**BGF Industries, Inc. Cheraw Weaving Facility**

**BGF Industries, Inc, 90 Huger Street, Cheraw SC**

**March 19, 2013**

BGF Industries Project Manager: Greg Slominski

BGF Industries Plant Manager: Karen Adeimy

Contractor Manager; Henry Nemargut Engineering Services: Henry Nemargut

Prepared for Judy Canova  
Project Manager  
State Remediation Section  
Bureau of Land and Waste Management  
SCDHEC  
2600 Bull Street  
Columbia, SC 29201

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**For DHEC use:**

Received by QA Office:

Reviewed by:

Approved by:

## 1.0 Introduction

This plan is presented as a basis to alter the groundwater testing requirements at BGF Industries' Cheraw Weaving Plant.

BGF owns and operates a weaving facility at 90 Huger Street, Cheraw, Chesterfield County. The current sampling plan calls for annual sampling as part of a Monitored Natural Attenuation.

The groundwater concern is VOCs. Test method 8260 has been used and is proposed to be the basis for future tests. Typical annual levels for specific VOCs are < 5 ug/l. The sampling plan originally was semi-annually and tracked metals and fuel derivatives. Encouraging MNA results reduced the sampling, testing and reporting scope over the years.

## 1.1 Site Name

BGF's Cheraw Weaving Plant

## 1.2 Sampling Area Location

Area of principle interest is where historic tanks from the previous owner were located. Those tanks were removed before BGF acquired the property.

## 1.3 Responsible Agency

South Carolina Department of Health and Environmental Control.

## 1.4 Project Organization

Title/Responsibility	Name	Phone Number & e-mail
DHEC Project Manager	Judy Canova	803-896-4046 canovajl@dhec.sc.gov
BGF Project Manager	Greg Slominski	434-369-4751 gslominski@bgf.com
Contractor	Henry Nemargut Nemargut Engineering	910-762-5475 henrynemargut@bellsouth.net
Primary Laboratory	Angie Overcash Prism Labs	800-529-6364 aovercash@prismlabs.com
Plant Manager of Facility	Karen Adeimy	843-537-3172 kadeimy@bgf.com

## **2.0 Background**

BGF Industries owns and operates a weaving facility at 90 Huger Street, Cheraw, Chesterfield County. The facility currently weaves carbon and other synthetic fibers for industrial uses typically high strength composite applications.

BGF acquired the plant in 1988. The prior owner was Burlington Industries, (BI). BI conducted various textile operations including weaving, dying and printing. A packaged water treatment plant once pre-treated sanitary water before discharge into Cheraw's POTW. During that time a variety of above ground and underground storage tanks were used. Tanks contained diesel fuel and solvents. All tanks were removed prior to BGF acquiring the property. (See Site Map A-0 for former location of tanks and general plant layout.)

In an environmental assessment performed in the late 90s exploratory monitoring wells were installed under the guidance of ATC Incorporated. Residual fuel and solvents were discovered in groundwater. A Monitored Natural Attenuation (MNA) was proposed and conducted. Exponential declines were observed in the ensuing years.

More recently, on May 3<sup>rd</sup> 2007 a deeper well was installed in accordance with SCDHEC regulations to determine if the plume was descending. At that time MW 3 & 6 were abandoned and filled with bentonite to water level and capped with Portland cement to ground surface.

Today, VOC reporting focuses on Tetrachloro-ethane, Trichloro-ethene, and cis-1,2-Dichloroethene which occasionally appear in results. Typical measurements for each constituent is < 5 ug/L. The average for all wells combined is also below or near 5 ug/l.

Groundwater reports have been submitted since the beginning of the investigation to DHEC Groundwater Division. The sites current DHEC representative is Judy Canova in the State Remediation Section.

DHEC's recommendation in 2012 was to develop a Sampling and Analysis Plan that would structure future sampling and reporting on a five year cycle. This Plan is presented with this objective in mind.

## **2.1 Site Description**

The site is used as an industrial textile plant with weaving and associated support activities like parking, warehousing, shipping and receiving, etc. The facility is a small quantity waste generator; Solid Waste EPA ID # is SCR000075671.

The plant is in the Cheraw town limits in a mixed use area. One side of the property is flanked by a railroad track. Terrain is essentially flat with minimal topographic variation as is common throughout this part of Chesterfield County. (See Site Maps A-1 and A-2 for half mile radius views of the facility and its environs.)

The site is in the Pee Dee river basin. Groundwater moves from the site in a North/Northeast direction toward the Pee Dee. A detailed groundwater receptor study was performed and submitted to DHEC on August 4, 2011. No drinking wells were discovered nearby in the receptor study's area of interest.

Within a quarter mile of the property there are no ponds or streams. There are no parks. Neighbors include approximately 140 homes and multi-family dwellings. About a dozen homes were abandoned and unlivable. A visual survey of the homes suggests no basements. Only crawlspaces were present, including the multi-family dwellings.

Within a half mile of the plant, the 2011 study found 438 residences and 103 businesses. Single family dwellings comprised 92% of the residences. The three most prolific commercial establishments were twelve retail shops, eleven restaurants and bars, and nine government offices. Extensive searches of each neighborhood and public records indicated there were no active drinking wells in the area. Additional abandoned residences and industrial facilities exist in this larger radius.

Within a mile are two bodies of water. One is an annual pond, the other is seasonal. The Town's Publicly Owned Treatment Works, the Town's Water Filtration Plant, and the Pee Dee River also fall within a mile radius as do industrial facilities, farm and woods. A hospital is located within his area as is a school.

Extending the area to two miles finds more residences commercial and industrial properties. The Town is served by public drinking water and has been for many years. There are no records of potable water supply wells within this largest area. However, water wells may be in use for gardens and agriculture.

## **2.2 Operational History**

The facility was an industrial textile plant before BGF acquired it. The facility began as the Cheraw Weaving Mills with the original weaving plant built in 1947. Initial plant size was 126' by 178'. Finished floor height is ~ 162.4' for all areas.

The building is a single story facility built in various additions. Truck loading occurs from the loading dock on the North East side of the building. A chain link fence secures the site. The rear access road has a swing gate that can be positioned to block traffic during periods the plant is not receiving or shipping materials

The plant operates on a schedule that varies depending on production requirements. Operations have run three shifts a day, seven days a week.

In 1950 a 138' by 176' addition was built directly behind the original building. In 1956 an additional 138' x 66' was added. The space appears to be originally used for warehousing supply inventory, and finished inventory. In April 1960, Cheraw Weaving Mill's deed was transferred to Burlington Industries, Inc. (BI) For the next thirty years DHEC records for the plant refer to it as the Pee Dee plant.

In the early 1960s, BI modified the plant to accommodate printing operations. Changes were made to the 1950 bays to accommodate the printing equipment. A larger boiler and underground storage tanks (UST) were added. A wastewater pretreatment plant was constructed to minimize impact on the Town's Publicly Owned Treatment Works that remained the recipient of the facility's wastewater. The pretreatment plant consisted of small treatment tanks and two drying beds.

The current warehouse was added in 1969. Dimension for this addition were 138' x 110'. In the 1980s, BI removed the wastewater pretreatment plant, commercial boiler, and drying beds. Removals were concluded in 1986.

In March 1988 BGF Industries, Inc. took possession of the Pee Dee plant and the surrounding grounds documented on Chesterfield County's Plat book 36, page 169.

In the late 1990s non-woven scrim coating was conducted under the auspices of Belmont Operations. A total of four scrim units were installed in the 1950 bays. A small mixing and chemical storage area was added. Scrim coatings were made of Polyvinyl Alcohol, Polyvinyl Acetate, and Plasticizers. Thorough analysis was made of Belmont's air emissions, wastewater, and solid waste. Air emissions were so minimal they did not require a permit. Discharges to the POTW were tightly controlled and the facility's emissions did not warrant inclusion in the Industrial Discharges Permit. Solid waste was drummed and disposed off site.

In 2001 Belmont Operations were dissolved. Scrim machines and supporting equipment including the boiler were removed. The air conditioning system was retained.

History has come full circle and the plant once again is solely engaged in weaving. Current production includes weaving carbon and other yarns. Supporting activities:

- i) Air Conditioning Heat Pump, Electric & Natural Gas
- ii) Air Compressor, Electric
- iii) Quality Control Lab
- iv) Warehouse, receiving, and shipping
- v) Misc. management and overhead activities

There are no active or inactive landfills, nor are there waste piles on site. Toxicity tests were conducted on the site and found to be not a concern.

## **2.3 Above and Below Ground Tanks**

BI was thought to have had three USTs and two above ground tanks in addition to the wastewater pretreatment plant. (See Drawing A-0) Two of the USTs were fuel storage tanks, one listed as 3,000 gallons and another 10,000 gallon tank. There was a 7,000-gallon UST Varsol tank. The above ground tanks included a 500-gallon gasoline tank and small vinyl wash tank.

None of the tanks are listed with DHEC's UST office as having ever been in place. No listing references their removal. This was a common fate of UST documentation for tanks removed prior to the regulations coming into force. BGF Industries has no records of these tanks being registered or removed. Field investigation probing efforts indicated they were in fact removed. BI was presumed to have removed these tanks prior to the UST regulations becoming effective and in preparation of the sale of its Industrial Division which occurred in 1988. The tanks were reported as permanently closed by removal by Mr. Marion Berry (Plant Manager at the time) recollected the tanks were part of the May 1986 BI asset removal that also included the above ground tanks and pre-treatment system.

## **2.4 Previous Investigations/Regulatory Involvement**

The only known regulatory involvement is the ongoing groundwater sampling and reporting to DHEC.

BGF performed an environmental site assessment in 1998. Analysis indicated the presence of metals, primary hydrocarbons, VOCs and subsequent compounds due to bioattenuation of the hydrocarbons and solvents. Initially elevated levels of Barium and other metals were thought to be residuals from BI operations. Subsequent analysis confirmed metals did not exceed background levels and were presumed to be naturally occurring.

The historic presence of fuel tanks created initial interest in fuel residuals. Chart B-1 displays results from the highest fuel derivatives, monitoring well 9. MW 9's results indicated concentrations in excess of 2,000 ug/l at the start of the study in 2000 dropped to less than 1 ug/l by 2009 and remained below reportable limits since then.

To draw multiple years' worth of data into a coherent view four wells MWs 9, 10, 11 & 13 were further summarized. These wells delineate the small area of interest, approximately 8,000 square feet. Data from these four wells was amalgamated into one chart to show the fuel reduction. Chart B-2 displays the average of all wells are below the reportable limit and have been since 2009.

Charts depicting metals are included as C-1, C-2 & C-3. As mentioned, there was initial interest to determine if metals may have been associated with BI's finishing activities, drying beds, etc. However tests indicated MW 1 & 8 outside BI's span of impact registered some of the highest values of these naturally occurring substances. Metal concerns were discounted and deemed a function of high minerals/metals in that part of the county.

BGF acquired a permit to install injection wells to introduce a hydrogen-releasing compound to speed up bio-attenuation. Underground Injection Control Permit # 513 was issued by the Department of Health and Environmental Control, DHEC, on November 8, 2000. That work was done. Remediation efforts met with success. It was impossible to determine if results were related to that work or would have been achieved without injections.

Wells were tested every six months with findings forwarded to DHEC for review. The sample and reporting cycle was reduced to once a year about a decade ago.



A Groundwater Receptor Study was developed in 2011 and is on file with DHEC.

## 2.5 Geological Information

Site specific hydrologic information is provided by three sources. General soil description of the Peedee Formation: Consists of dark-green or gray, finely micaceous, more or less glauconitic and argillitic sand, many layers of which are calcareous (impure limestone). Irregular concretionary masses of impure calcium carbonate occur in places. Dark marine clays are interstratified with sand. Black Creek Group: Consists of irregularly bedded, laminated, carbonaceous clays and thin laminae and lenses of sand; lignite and pyrite present; glauconitic in places; massive interbedded layers of glauconitic sand present toward top of unit. Light-colored clays and coarse arkosic sands found in SC (Chesterfield Co. and southward) formerly called Middendorf beds by Sloan (1908) revised as Middendorf arkose member of Black Creek formation (SC only) on the basis of fossil plants. (Source <http://tin.er.usgs.gov/geology/state/sgmc-unit.php?unit=SCKpb%3B1>).

A relevant source of information for geological considerations are the Soil Boring Log and test results from the deeper MW 13 installed in 2007. See A-3 for sketch. Soil cuttings were tested using EPA Method 8260 and showed no contamination.

The Boring Log shows the following soil Descriptions: (Permit Number 2968)

Depth (ft)	Soil Description	OVA (ppm)
5	Orange brown, Silt w/clay, damp	BDL
10	Red brown, Silt w/trace clay & gravel, damp	BDL
15	Orange, medium Sand w/trace clay & gravel, moist	BDL
20	Orange tan, Sand w/silt & gravel, moist	BDL
25	Gold tan, Sand w/silt & gravel, wet	BDL
30	Tan brown, Sand w/gravel & silt, saturated	BDL
35	Tan, Gravel w/sand & trace silt, saturated	BDL

The final and perhaps most relevant geologic/hydrologic information is provided by Henry Nemargut who has overseen sampling at the site for the last half dozen years. Observations suggest soil conditions, water table and recharge rates are keys factor in selecting purge and sampling methods for this Plan.

## 2.6 Environmental and /or Human Impact

The low levels of groundwater contamination and lack of nearby receptors make the environmental impact of BI's legacy leaks a minimal concern.

The site proved to be a suitable site for MNA. Testing indicated reduced levels of contaminants. Fuel derivatives are now below reportable limits and solvent based reactants are also at or below levels of concern.

The area is fenced and an industrial facility which limits the potential for the area of interest to be disturbed.

Testing on the property indicated contaminants had not rapidly spread laterally in the direction of groundwater flow or vertically to the deeper MW 13.

The detailed groundwater receptor study found no drinking wells active within the study area.

## **2.7 Degradation Model of MNA**

It is not within the scope of sampling, testing, or reporting to quantify what degradation pathways are adding the reduction. Some understanding of the complex interactions is helpful when assessing findings.

The observed MNA of volatile organic solvents is thought to be a function of both biotic and abiotic processes. Processes include hydrogenolysis, dihalo-elimination, and coupling. These processes are microbial processes or chemical reductants.

Abiotic processes such as dehydrohalogenation and hydrolysis occur without transfer of electrons. The pathway is thought to convert 1,1,1-trichloroethane (1,1,1-TCA) into 1,1-dichloroethene (1,1-DCE) acetic acid. (Source <http://www.environmental-expert.com/Files%5C8969%5CArticles%5C13245%5Cart11.pdf>)

Coincidentally, some MNA processes may benefit by trace quantities of residual hydrocarbons present in the ground that function as fuel for reactions.

Historic findings show a reasonably exponential degradation. It should be noted that the time frame from BI's releases to BGF's discovery was long in comparison to actual study period. Reduction occurred prior to the first samples taken in 2000. Despite not knowing how high concentrations were when spills/leaks occurred, the exponential decay curve appears a fair representation of current findings and predicting near term results.

## **3.0 Project Data Quality Objectives**

The principle data quality objective is to provide DHEC with accurate information such that the plant can be authorized for reduced monitoring. Confidence in the results is needed to justify the change to a longer sample/test cycle.

The study will confirm the hypothesis that NMA has been successful. Historic levels will be compared to current levels.

VOCs in the groundwater will be analyzed with a minimum reporting and detection levels afforded by 8260B. In all cases the MRL and MDL are below the allowable Minimum Contamination Limit proposed by EPA and SCDHEC, so Method 8260B is a suitable approach.

The information needed to prove the hypothesis is the current concentrations of VOCs. Those levels will be compared to the DHEC's target objectives, presumably 5 ug/l.

The study will be performed in the spring of 2013. If results are suitably low it is hoped that DHEC will authorize a longer period of time between tests. A five year cycle sampling again in 2018 is proposed.

It is BGF's objective to reduce and eventually eliminate testing.

### **3.1 Project Task and Problem Definition**

The task is to gather groundwater samples, analyze them, and compare them to the target standards.

### **3.2 Data Quality Objectives**

The principle data quality goals are to ensure all sampling, testing and reporting is done with sufficient quality control and proper methods such that the results can be assessed with certainty. The objective is to provide credible evidence that MNA has reduced the sites contamination such that:

- ▶ Low levels justify lengthening the sample cycle to five years, or
- ▶ Low levels justify eliminating sampling all together (now or in the future)
- ▶ Gather information that allows DHEC to feel confident the site warrants such reductions or removal from future tests.

### **3.3 Data Quality Indicators (DQIs)**

The principle factors affecting quality are two fold:

- 1 The contractor used to gather samples; methods used to purge and sample; proper sampling handling and chain of custody.
- 2 The lab performing the Method 8260B.

In order to ensure suitable quality control is in place, the following steps are proposed:

#### **1) Sampling:**

- a) The same licensed groundwater sampling provider already familiar with the site will be used.
- b) Methods to be used are presented in this Plan.
- c) A Pump Blank will be submitted to the lab. This sample will be run through the pump and tubing.
- d) MW 10 is historically the highest source of VOCs. A split or sequential replicate will be drawn from MW 10. Findings will be included in the summary report and all data from the duplicate will be forwarded to DHEC with the main report.

#### **2) Lab:**

- a) Prism Laboratories will be used as the primary lab.
- b) Prism Labs DQIs will be submitted to DHEC as an electronic attachment.

### **3.4 Data Review and Validation**

Multiple steps of review will be conducted.

The laboratory will use its approved methods. They will use the standard methods common in 8260B tests. Their data package will contain analytical results, a Case Narrative, Laboratory Report and Quality Control Data. A chain-of-custody will be included. Data qualifiers will be flagged in the primary report on each sample. The analyst's identification and batch designation will be included on the report along with relevant Sample ID information to ensure tractability. Quality control statement and specific remarks will be included in the sample comments section. Data will be reviewed signed and dated by Lab's responsible party and Project Manager.

Henry Nemargut Engineering will summarize findings and forward all information in his report to BGF.

BGF will review and comment on the results and forward all information to DHEC. DHEC will perform the final review and present its recommendation.

The data will benefit by having a blank and a duplicate of MW 10. The blank and duplicate are a valid approach to evaluating the reputability of results.

### **3.5 Data Management**

All raw data will be managed with chain-of-custody release. Raw data will accompany subsequent reports and summaries to enable downstream scrutiny.

### **3.6 Assessment Oversight**

If DHEC would like to be informed of the scheduled sample date BGF will invite a DHEC representative to observe the sample draw.

BGF's Program Manager will review with the Contract Manager and the Lab the Plan's QA Program to ensure data collection and handling follows agreed protocol.

If the Data Review and Validation discovers irregularities they will be assessed. If need be samples will be taken again and or tests performed again.

## **4.0 Sampling Rationale**

All functioning monitoring wells on site will be sampled in 2013. See drawing E-1 for current well locations and Potentiometric Surface Map. It is not know how many of the older wells are functional, but the sample team will attempt to gather samples from all wells and report their findings. The exponential degradation curve superimposed on the data confirms the downward MNA trend. This suggests 2013 is an ideal time, and 8260B an ideal test protocol to base the pending decision.

Tests will use Method 8260B for VOCs with an expected Report Limit between 0.50 and 1.00 and a Minimum Detection Limit between 0.05 and 0.10 ug/l.

Well condition is unknown from year to year. Some wells have not been tested in many years. However the area of interest has suitable coverage. Inability of some wells to generate samples and DHEC's review of sample results may determine some wells need not be sampled in future cycles.

#### 4.1 Groundwater Sampling

The following table identifies groundwater monitoring wells. See E-2 for additional well information.

ID	Year Installed	General Location	Casing Elevation (ft)	Groundwater Elevation 2012 (ft)	Comments
1	@ Start	"Virgin Soil" property extreme near RR Tracks	101.31	85.50	
2	@ Start	"	94.32	84.92	
3	@ Start	"	94.22	Abandoned	Abandoned
4	@ Start	near former Dyeing Bath	93.67	85.03	
5	@ Start	near former Waste Water System	92.81	84.49	
6	@ Start	"	93.05	Abandoned	Abandoned
7	@ Start	"	94.77	85.37	
8	@ Start	"Virgin Soil" property extreme parking lot	102.06	85.16	
9	@ Start	Former Tank Area	104.11	85.34	
10	@ Start	Former Tank Area	104.08	85.35	
11	@ Start	Former Tank Area	103.52	85.31	
12	@ Start	Former Tank Area	102.89	85.17	
13	2007	Former Tank Area	103.91	85.03	Deeper Well

Results have been tracked for more than a decade. During that time test protocols have lowered Reporting Limits by a factor of ten and (RL) and Minimum Detection Level (MDL) by a factor of five. Such improvements are encouraging from a quality assurance standpoint.

Current tests are more sensitive than earlier years. For the purposes of this report all historic results are considered accurate. Changes in test protocols are not deemed a factor in the results.

Chart series D shows graphs of solvents identified in monitoring wells 9, 10, 11 & 13. Chart D-1 is the amalgamated view. It shows the average of these wells each year and is the basis for the exponential trend line displayed for reference on all other D graphs. The hatched vertical line between 2006 and 2007 indicates the addition of MW 13.

The same XY axis scale is used for D-2 through D-5. Chart D-2 shows MW 9. Few measurements above RL were observed. MW 10 is shown on D-3. This is the most prolific well

and the principle contributor to the averages shown on D-1. MW 11's solvents are shown on D-4. The deeper well MW 13 is shown on D-5. The vertical hatched line shows when MW 13 was installed, however the X axis remains constant for all charts to ease comparison.

Table D-6 provides lab data as reported March 2012.

#### **4.2 Other Sampling**

No other media will be sampled.

#### **5.0 Request for Analysis**

The ideal time for sampling this site is late March through April when groundwater conditions improve the chances of successful collection.

The Plan calls for MW 10 to be duplicated and a pump blank will be assessed.

Samples will be tested using 8260B. The principle lab will be Prism Labs.

Turn around and holding times are suitable to accomplish the objective.

## 5.1 Analysis Narrative

The following table will be used as a guide to plan collection and testing of samples.

Analyses Requested	Contract Laboratory Analytical Services
Matrix	Groundwater
Chemistry Type	Organics
Specific Analyses Requested	VOS
Preservatives	Add 1:1 HCL to pH < 2 Chill to 4 C or below
Analytical Holding Times	Hold < 7 days
Contract Holding Times	Hold < 5 days

Sample ID	Sample Location	Sample Depth	Special Designation	Concentration Low?	No Containers per Analysis
MW 1	MW 1			Yes	4 x 40 mil glass vials 2 with preservative, 2 without
MW 2	MW 2			Yes	"
MW 4	MW 4			Yes	"
MW 5	MW 5			Yes	"
MW 7	MW 7			Yes	"
MW 8	MW 8			Yes	"
MW 9	MW 9			Yes	"
MW 10	MW 10			Yes	"
MW 11	MW 11			Yes	"
MW 12	MW 12			Yes	"
MW 13	MW 13			Yes	"
MW 20	MW 10		Duplicate	Yes	"
MW 21	N/A		Pump Blank	Yes	"

As identified in the table above, a single sample will be drawn from eleven locations. MW 10 is slated for two samples. A field blank will also be processed.

In the event that MW 10 cannot generate enough water for a split sample, one of the other wells in the area of interest will be used. Namely, MW 9, MW 11, or MW 13 will stand in as the duplicate well if conditions do not allow MW 10 to generate enough volume.

The sample table shows four \* 40 ml samples for each well. Quantities may differ depending on the labs requirements. The laboratory generally calls for two 40 ml samples with HCL and two 40 ml samples without preservative.

## **5.2 Analytical Laboratory**

The primary lab's QA Plan was submitted to DHEC as an electronic attachment.

## **6.0 Field Methods and Procedures**

Sample and testing procedures will follow the EPA's *Ground-Water Sampling Guidelines for Superfund and RCRA Project Managers*.

### **6.1 Sampling Overview**

BGF proposes to use Henry Nemargut Engineering Services and Prism Laboratories, Inc. (SC Certification #99012001) for sampling and analyses. Henry Nemargut Engineering Services field methods are provided.

Wells in the primary area of interest are low volume and recharge very slowly. Some of the other wells on the site tend to recharge faster, but the key wells for revealing VOCs have low permeability conditions.

In general the EPA Guideline calls for the same purge method be used for sampling and prefers low-flow submersible or positive-displacement pumps with flow controllers set to pump less than the recharge rate.

Sampling will use micro-purge and low flow pump with a variable speed pump controller.

As a back-up, if conditions do not allow the micro-purge and low flow pump to operate, a bailer with a double check valve and bottom-empty device with control flow check valve may be used to obtain samples. These have been the only devices that work on all wells at this site. EPA calls for bladders, pumps, bailers and tubing to be either stainless steel, Teflon, glass or other inert materials to reduce potential contamination. The samples will be drawn using Teflon lined bailers as recommended by EPA.

### **6.2 Sample Procedures**

1. Timing for well sampling will be coordinated with all parties to enable DHEC to be present on the day of sampling.
2. Wells will be Developed between one week and two weeks prior to sampling. Developing will purge wells while assessing water quality with an in-flow monitor. Results from Development will provide insight to well capabilities prior to sampling.
3. At the time of sampling, wells will be opened and allowed to equilibrate with atmospheric conditions.



4. After approximately 30 minutes, the wells will be gauged. Water level meter will be marked in 0.01' intervals and will be decontaminated between wells in accordance with attached SOP.
5. Wells will be micro-purged during which using an inline analyzer will assess water quality indicators. Once water indicators stabilize samples will be drawn. A minimum of 3 well volumes will be drawn if sufficient water is present. Calculation of well volume to be based on well construction records, tabulated in Table 1. Note, wells MW-9, MW-10, MW-11, & MW-12 typically have < 2' of water.
6. Once the well achieves stabilization, the well will be sampled as quickly as possible. Purge Stabilization Criteria shall be:

Stabilization Parameter	Stabilization Range
pH	0.2 units
DO	0.2 mg/l
Conductivity	0.020 mS/cm
ORP (Redox)	20 millivolts

7. A peristaltic pump with low controller will be the primary means to purge and collect samples. A Flow Through Cell will measure key indicators. Key indicators will be used to determine if the well is stable. ORP is deemed the most representative parameter for testing.
8. Teflon or Teflon lined tubing will be used for purge and sampling. Each well will use new tube. Tube will be discarded after each well. Tube diameter will be determined by the pump selected.
9. One or more wells may run dry before sufficient water is collected. A contingency plan will be in place. If a well runs dry before sufficient water samples are collected, the tube will be crimped securing water in vertical column. The tube will then be manually drained into sample containers.
10. Samples will be collected in 40 milliliter Volatile Organic Analyses (VOA) glass containers with Teflon lined caps, preserved with hydrochloric acid. Containers will be checked on site to ensure no air bubbles are present in sealed containers.
11. Sample containers will be placed immediately on ice and transported to the certified laboratory utilizing EPA chain of custody procedures.

## 6.3 Nemargut Engineering Services SOPs

### A. FIELD SCREENING OF SOILS

1. Calibrate instrument prior to use in accordance with manufacturer's recommended procedures and certified calibration gas standard. Calibrate PIDs with isobutylene standards; FID with methane gas standards.

2. Collect soil samples using decontaminated augers or other sampling devices. Using disposable Latex gloves, place soils in a "zip-lock" type plastic bag, agitate and allow to equilibrate in sunlight for a minimum of 15 minutes.
3. Insert tip of field sampling equipment into sample bag, approximately 1/2" from soil, leaving bag sealed as much as practical.
4. After reading has stabilized, record sample number and contaminant level in parts per million.
5. Check instrument for drift using the standard calibration gas at intervals between sampling and at the end of the days use. Recalibrate instrument as necessary.

## **B. SAMPLE HANDLING**

1. 1. Samples collected for laboratory analysis should be handled using disposable Nitrile gloves. Do not re-use gloves.
2. Place samples into laboratory supplied glassware, in a quantity sufficient for laboratory analyses to be conducted and with minimization of head-space. Tighten sample jar lid securely.
3. Check VOA containers for presence of bubbles by inverting containers and visually inspecting for bubbles. Discard containers with bubbles and collect additional samples in new containers as necessary.
4. Label samples with sample ID, time sampled, date, and analyses to be performed.
5. Immediately place sample containers on ice and cool to approximately 4 degrees Celsius. Store all samples on ice or refrigerate until delivered to certified laboratory.
6. Complete a chain of custody (COC) record for laboratory samples; sign and date COC when samples are relinquished in accordance with EPA chain of custody protocol.

## **C. WELL DEVELOPMENT & SAMPLING - BALER METHOD (AS BACK-UP)**

1. Compute volume of the water in well to be sampled. Volume of 2" well is 0.163 gallons/foot; Volume of 4" well is 0.653 gallons/foot.
2. Use new disposable baler to develop well and collect sample. Submerge baler with new nylon string. Handle baler and string with disposable Latex or Nitrile gloves.
3. Purge well by removing 3 volumes of water with baler. Empty baler into 5 gallon bucket, 55 gallon drum or other container. Handle and dispose of water properly. Do not purge water below top of screen for wells screened below the water table.
4. Allow well at least 2 hours to recover after purging at low permeability sites, then collect samples.
5. After well development, obtain water sample. Place water sample into laboratory supplied glassware. Fill volatile organic containers completely full, allowing no air bubbles. Fill semi-volatile sample containers as directed by laboratory performing analyses.
6. Transport and handle samples in accordance with Standard Operating Procedure "Sample Handling".

## **D. EQUIPMENT DECONTAMINATION**

1. Decontaminate water level meters, split spoons and other sampling equipment at staged
  - i. decontamination area via the following procedure:
  - ii. A. Soap and tap water wash;
  - iii. B. Tap water rinse;
  - iv. C. Distilled deionized water rinse;
  - v. D. Isopropyl alcohol rinse;
  - vi. E. Double distilled water rinse.
2. Where practical, use new disposable sampling equipment.

## **7.0 Sample Containers, Preservation and Storage**

Sample containers are pre-cleaned and not rinsed prior to sample collection. Containers are suitable for low concentration Method 8260 with sufficient volume for the receiving lab. Samples will be chilled and shipped approximately 4 C.

1:1 hydrochloric acid (HCl) will be in the sample containers prepared by the lab. As the historic levels of contaminants measured on the site are known to be stable, no field assessment of pH or adjustment of the quantity of HCl is anticipated.

Vials will be filled so that there is no headspace. Samples will be chilled to 4 C immediately upon collection. Suitable vial quantities will be provided to meet the laboratories requirements.

## **8.0 Disposal of Residual Materials**

Investigation derived wastes will consist of PPE, disposable sampling equipment, and decontamination fluids. And purged and excess groundwater. Solid refuse will be double bagged and placed in a municipal refuse dumpster. Groundwater purge and excess will be relieved at surface.

Groundwater removed during Well Development will be retained on site in drums pending test results. Two or more drums will be present. Development and subsequent purge water will be retained until test results come back and determine if the water is suitable for release or needs special disposition.

## **9.0 Sample Documentation and Shipment**

Field notes and logbooks will be used by the sample crew with sufficient detail to document all relevant information and transfer that information to the chain of custody and subsequent reports.

### **9.1 Chain of Custody**

The standard chain-of-custody form for each laboratory will be used properly identifying details of project and site information, sample identification and medium, and tests to be performed. Completed chain of custody forms will be included in the final report.

## **10.0 Quality Control Samples**

Three types of control samples will be used. A temperature blank will accompany coolers to be used by the laboratory to measure temperature upon receipt. A pump blank will evaluate tubing impurities. Water from MW 10 will be gathered and prepared as a primary and field duplicate. The rationale for this is to provide a second assessment of the well with the highest historic readings. A back-up plan exists in case MW 10 cannot provide sufficient water for a replicate.

A blank forwarded to the primary lab. Distilled, deionized, or laboratory provided blank water such as Talex will be used. The water will be processed as if it were gathered from a well using a bailer or pump and collected in a sample container similar to others.

Many of the samples proposed to be measured in 2013 constitute background samples. These are distant from the historic location of tanks. Two wells, MW 1 and 8, are up gradient from the area of interest. MW 2 and 4 are downstream but tangential to groundwater flow.

## **11.0 Field Variances**

The two largest considerations for field variance are particularly low groundwater levels and the intent to duplicate MW 10. Field conditions are best suited for a late March through early May test.

The Plan intends to gather water from all wells. Low water conditions have in the past made it impossible to collect water samples from all wells.

If one or more wells do not generate sufficient flow, sampling will continue. If at least two of the primary area (MW 9, 10 11, & 13) and three other wells generate samples, the samples will be sent to the lab. A sampling effort that yields less than this should be rescheduled.

Duplicating MW 10 may be difficult due to low water levels. While this is the principle well of interest, it is also known to be a particularly low flow well. Alternate options include gathering water from MW 9, MW 11, or MW 13 if MW 10 doesn't yield. If none of the wells in the primary area of interest generate enough water to allow a duplicate, the sample exercise will proceed without the benefit of the duplicate.

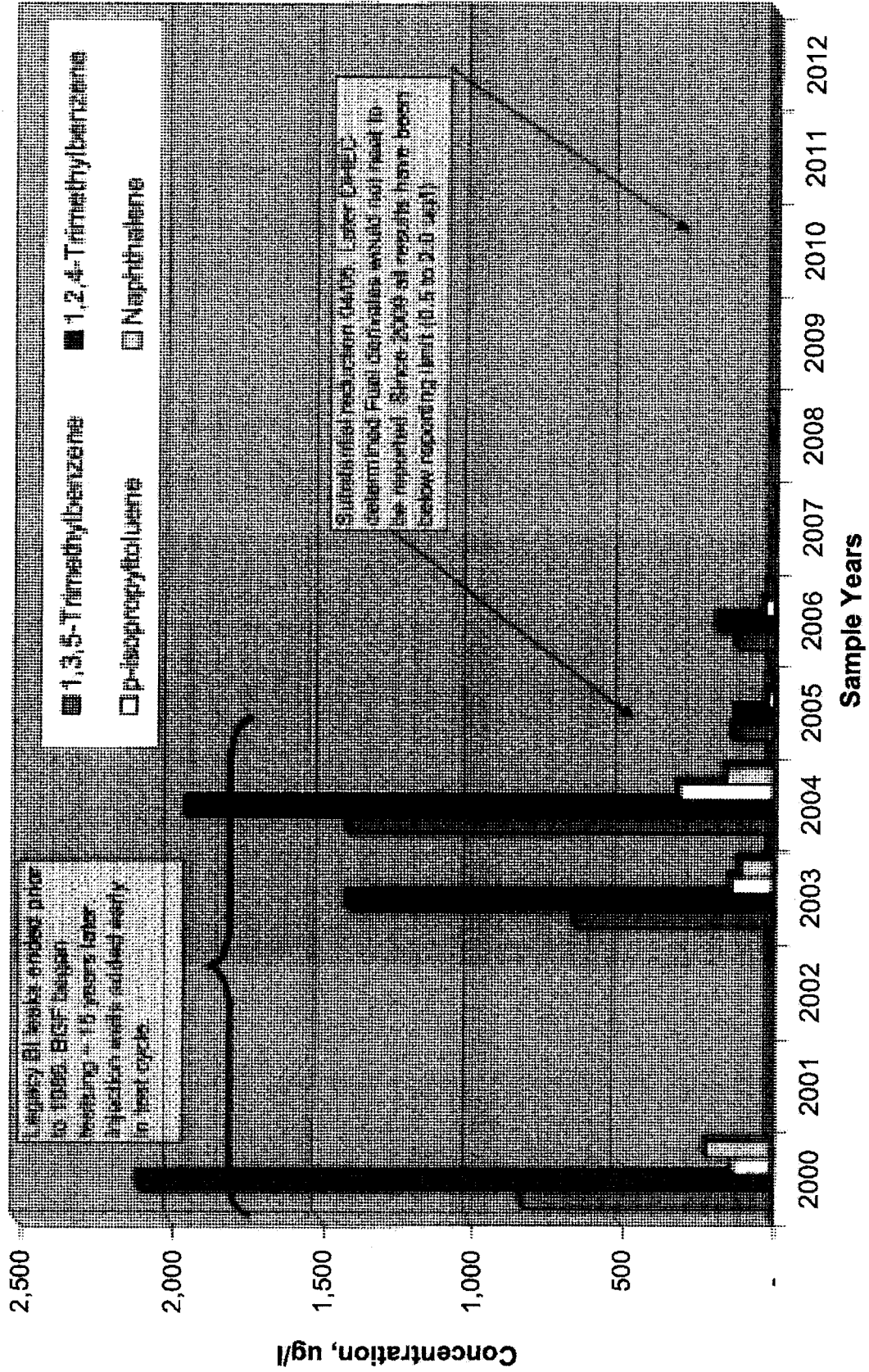
## **12.0 Field Health and Safety Procedures**

The site poses no unusually health and safety issues beyond that involved with non-hazardous groundwater sampling. Field services will be provided by Henry Nemargut Engineering. The company is familiar with the site, entrance and exit locations, etc. The Nemargut's SOPs, use of PPEs and general guidelines were detailed earlier in the Plan.



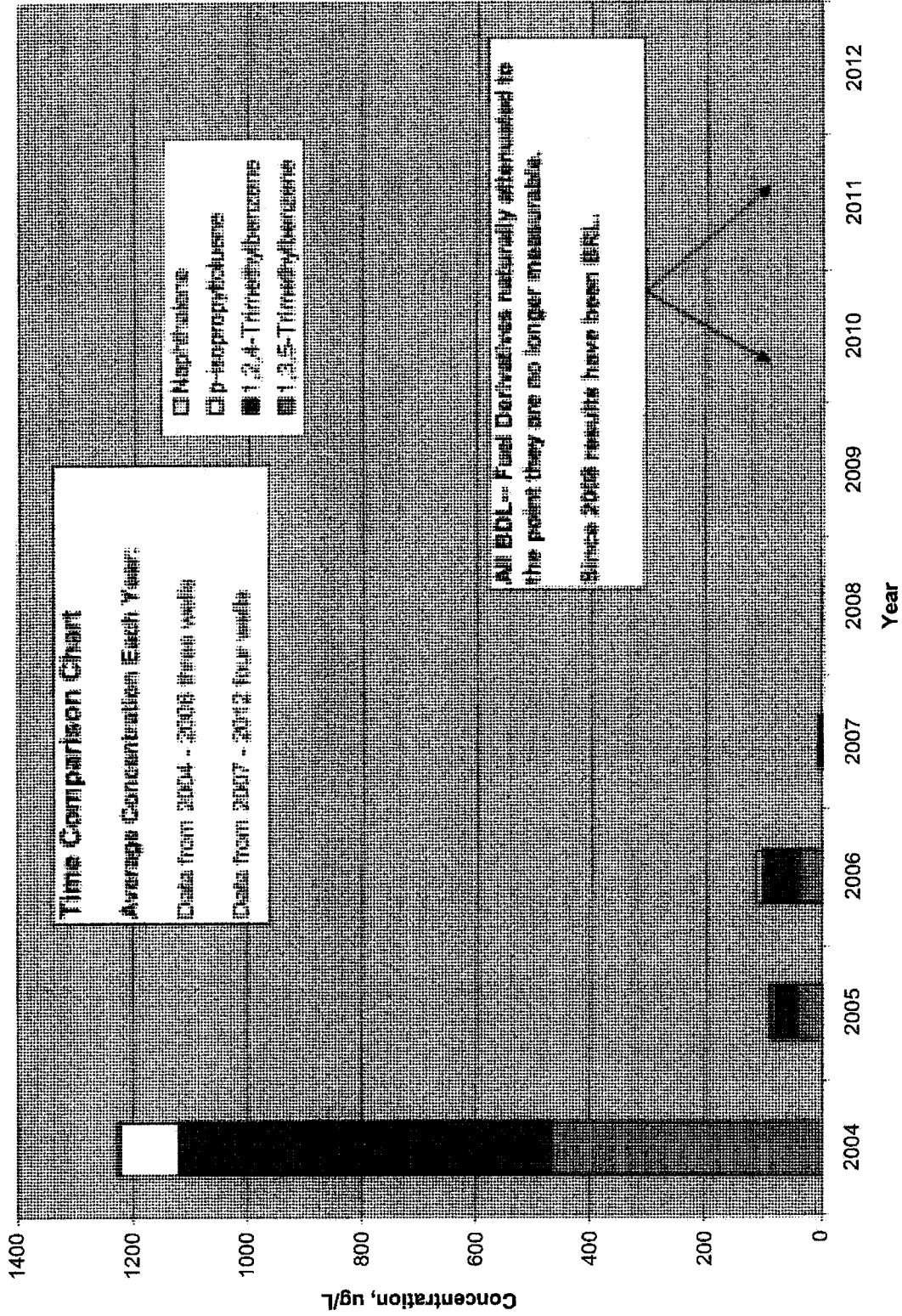


# Monitoring Well 9 (Fuels)

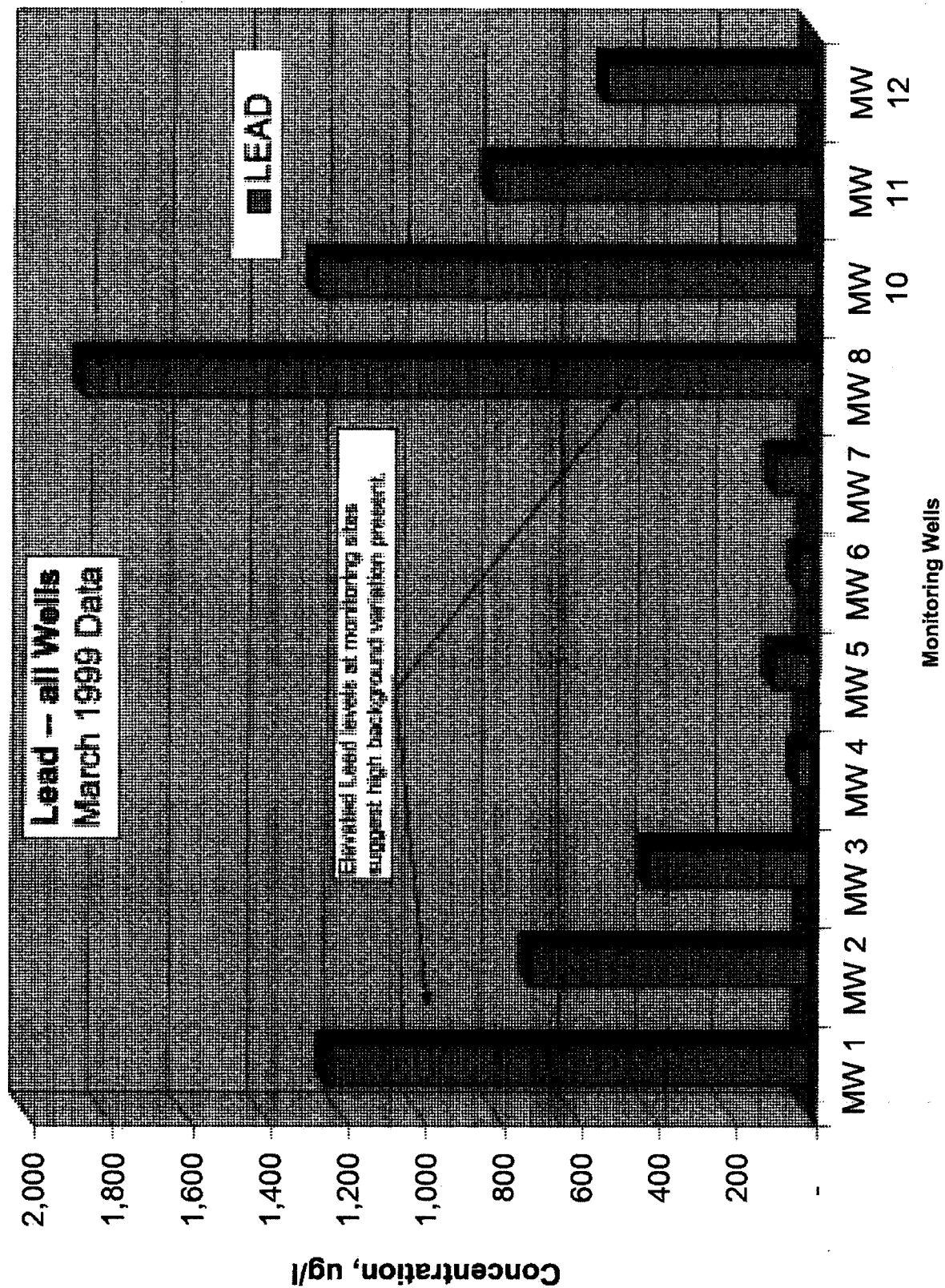


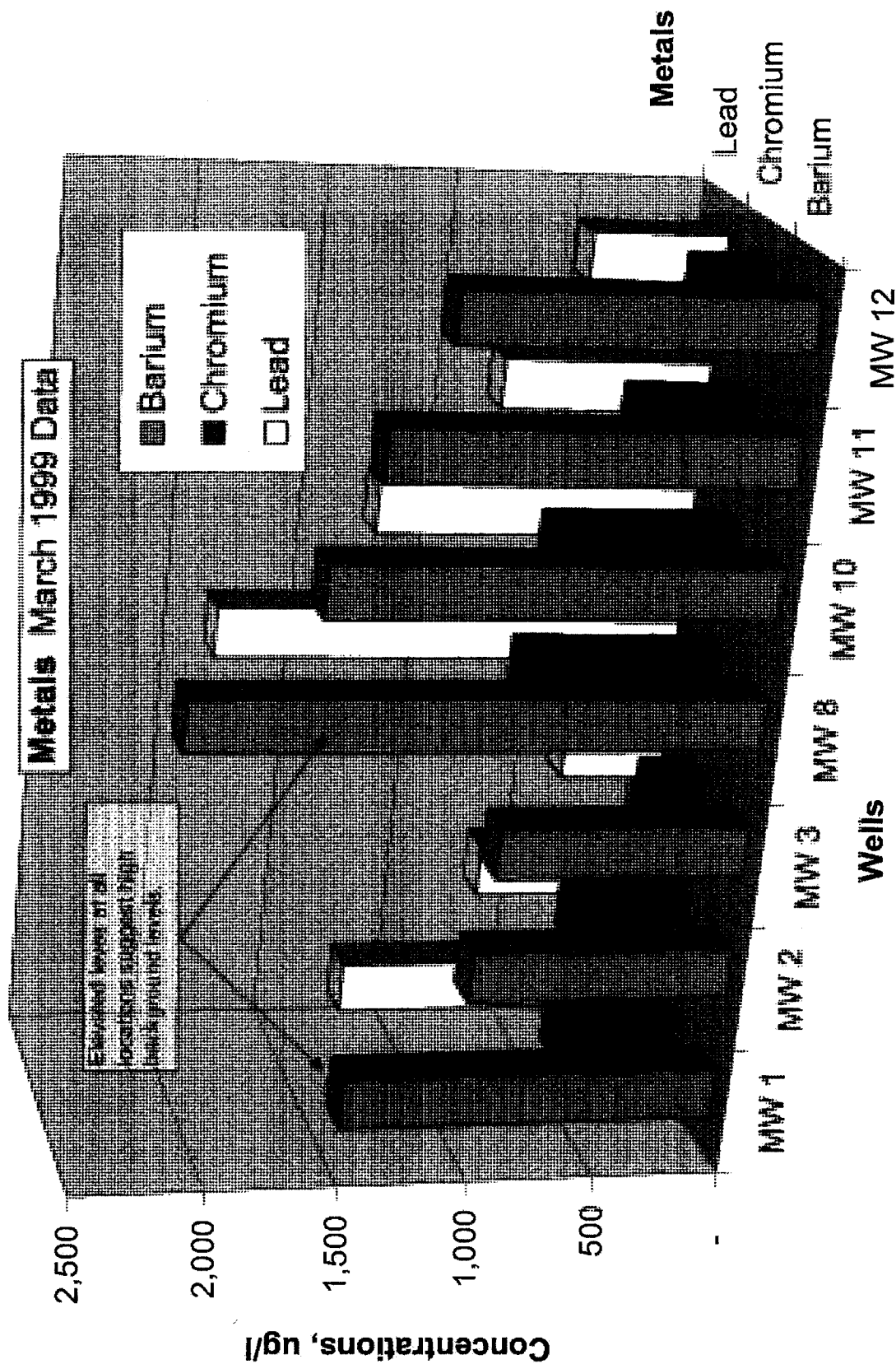


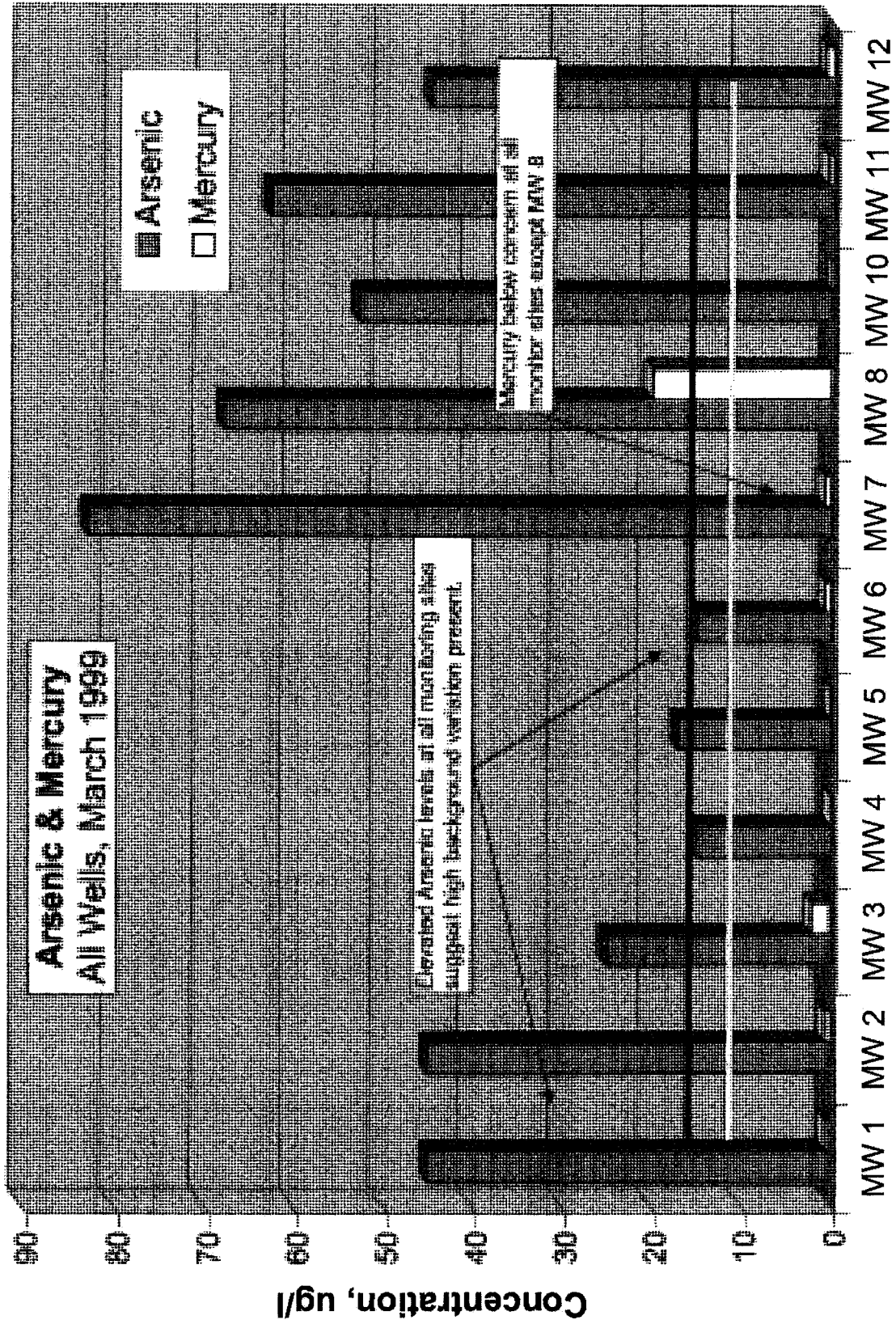
# Fuel Derivatives Wells 9, 10, 11 & 13 2004 to Present





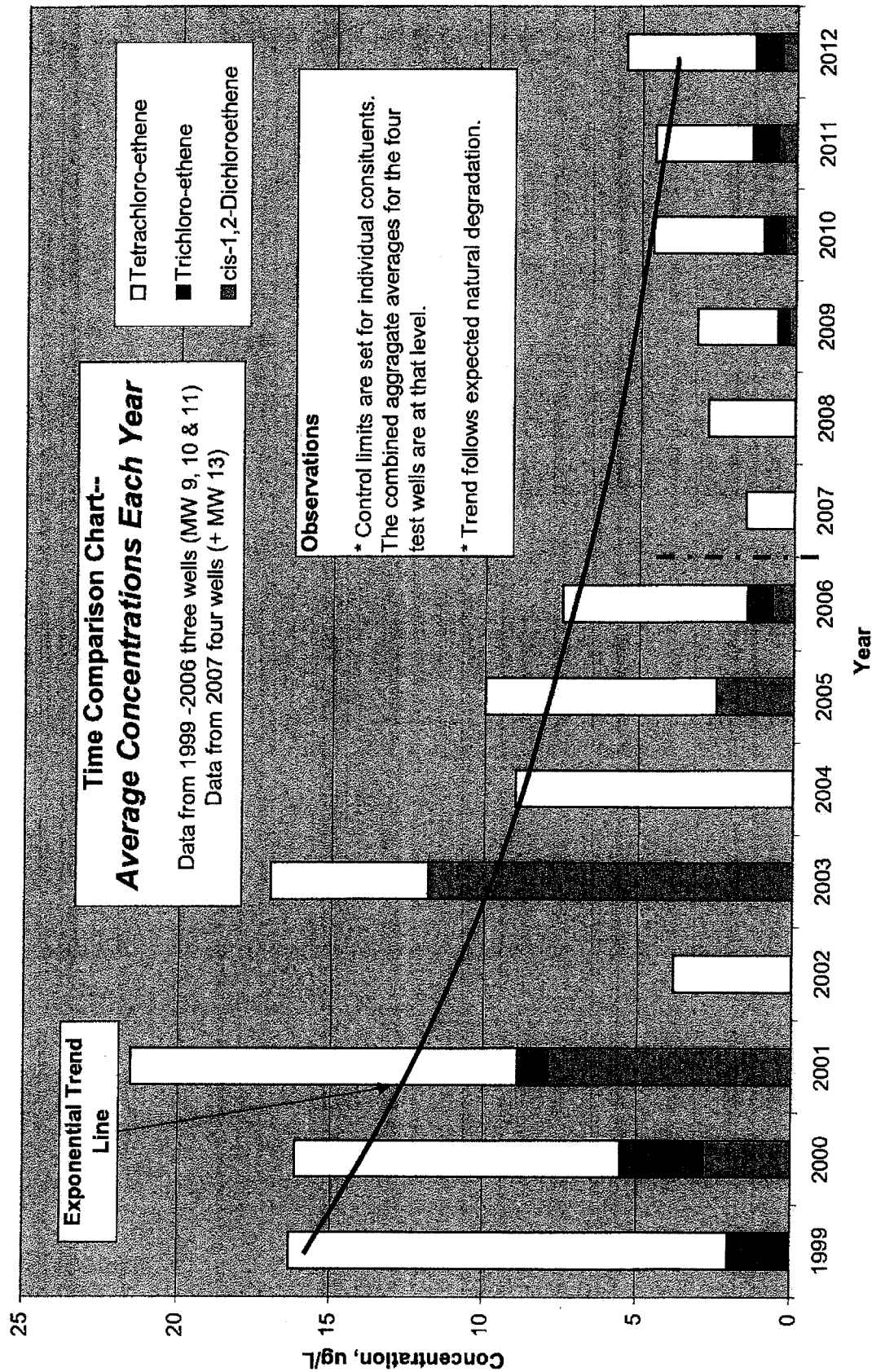






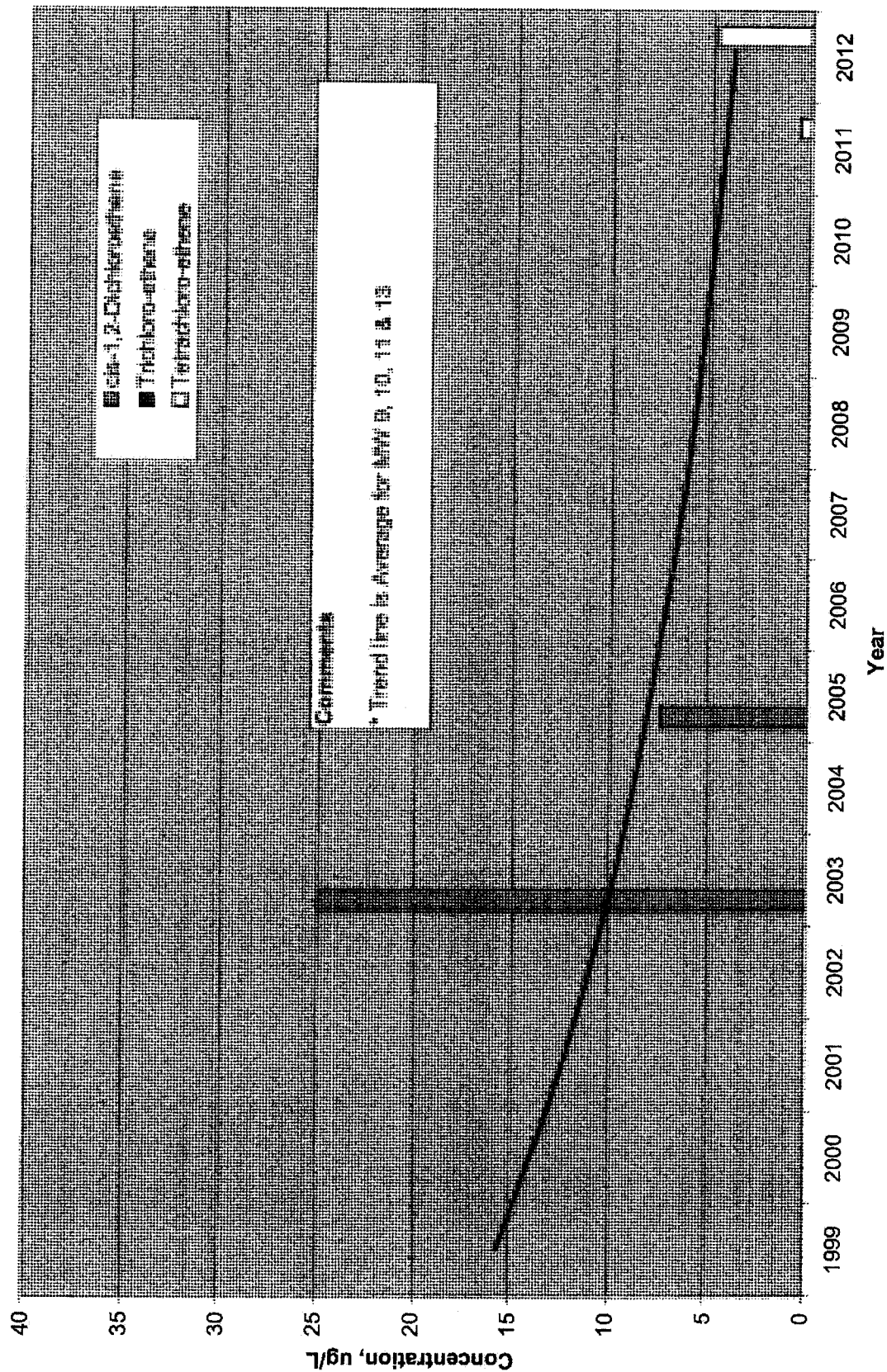
**Monitoring Wells**

# Solvent Derivatives Wells 9, 10, 11 & 13 1999 to Present

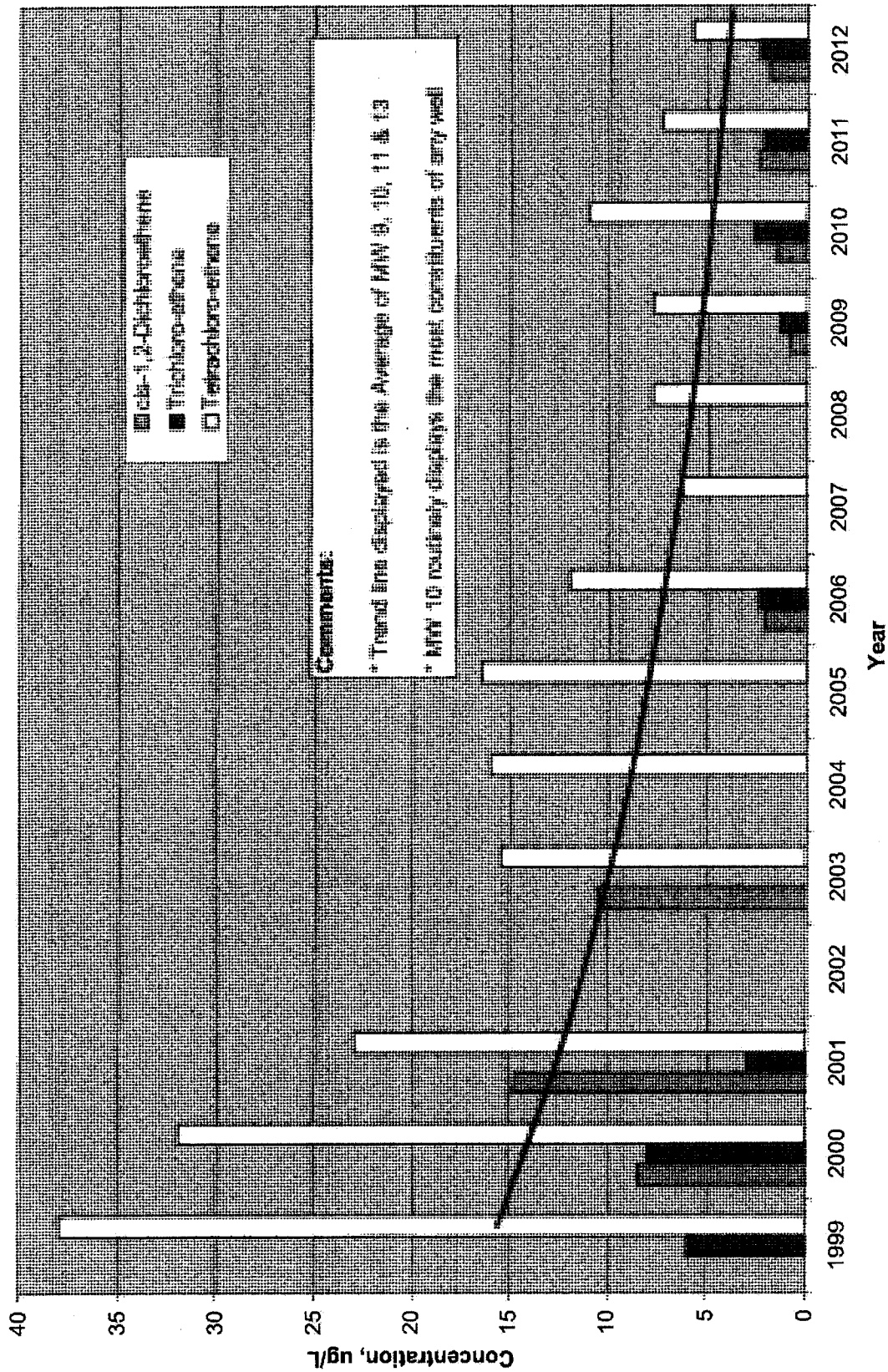




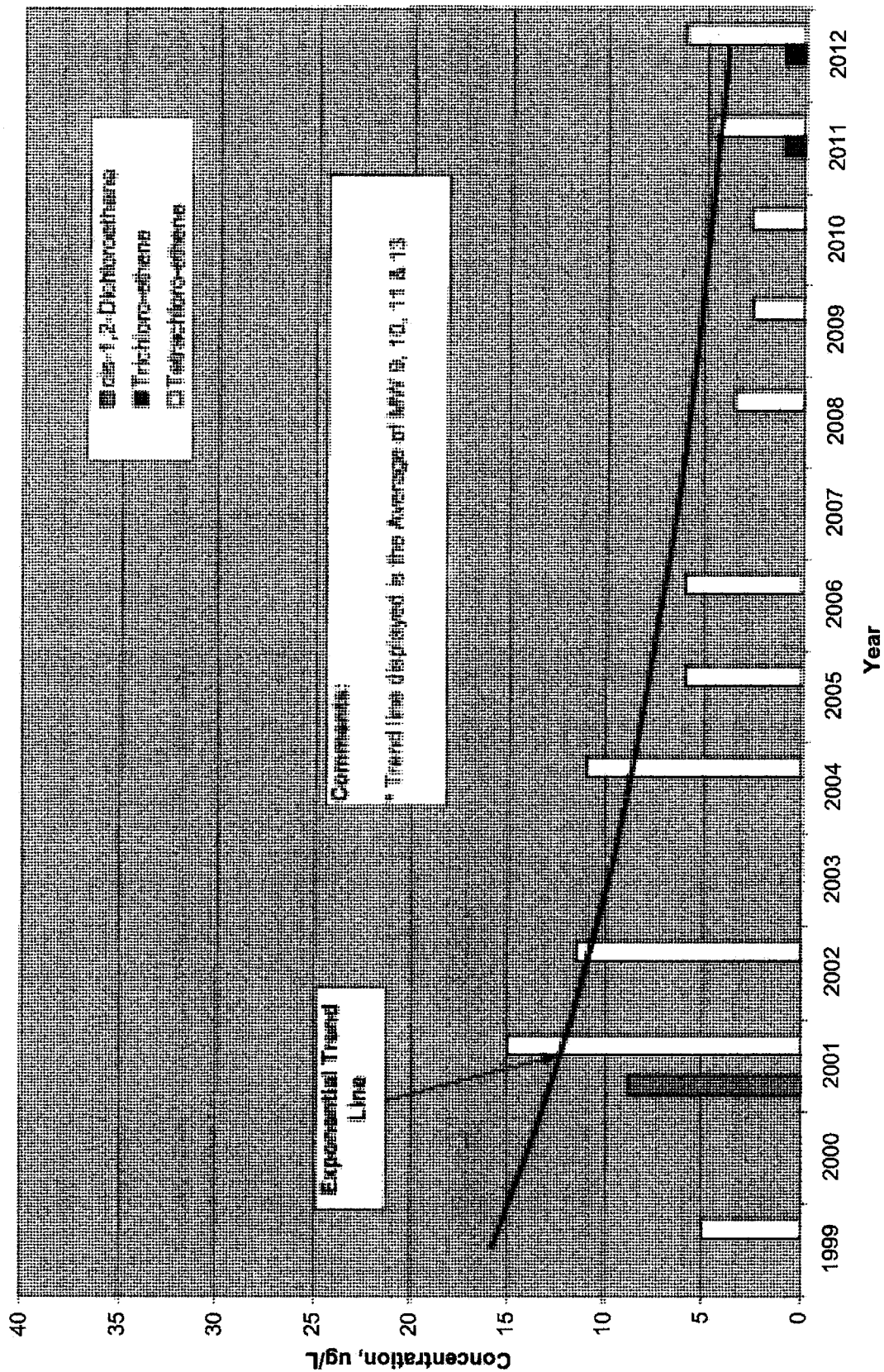
# Monitoring Well 9



# Monitoring Well 10 Solvents



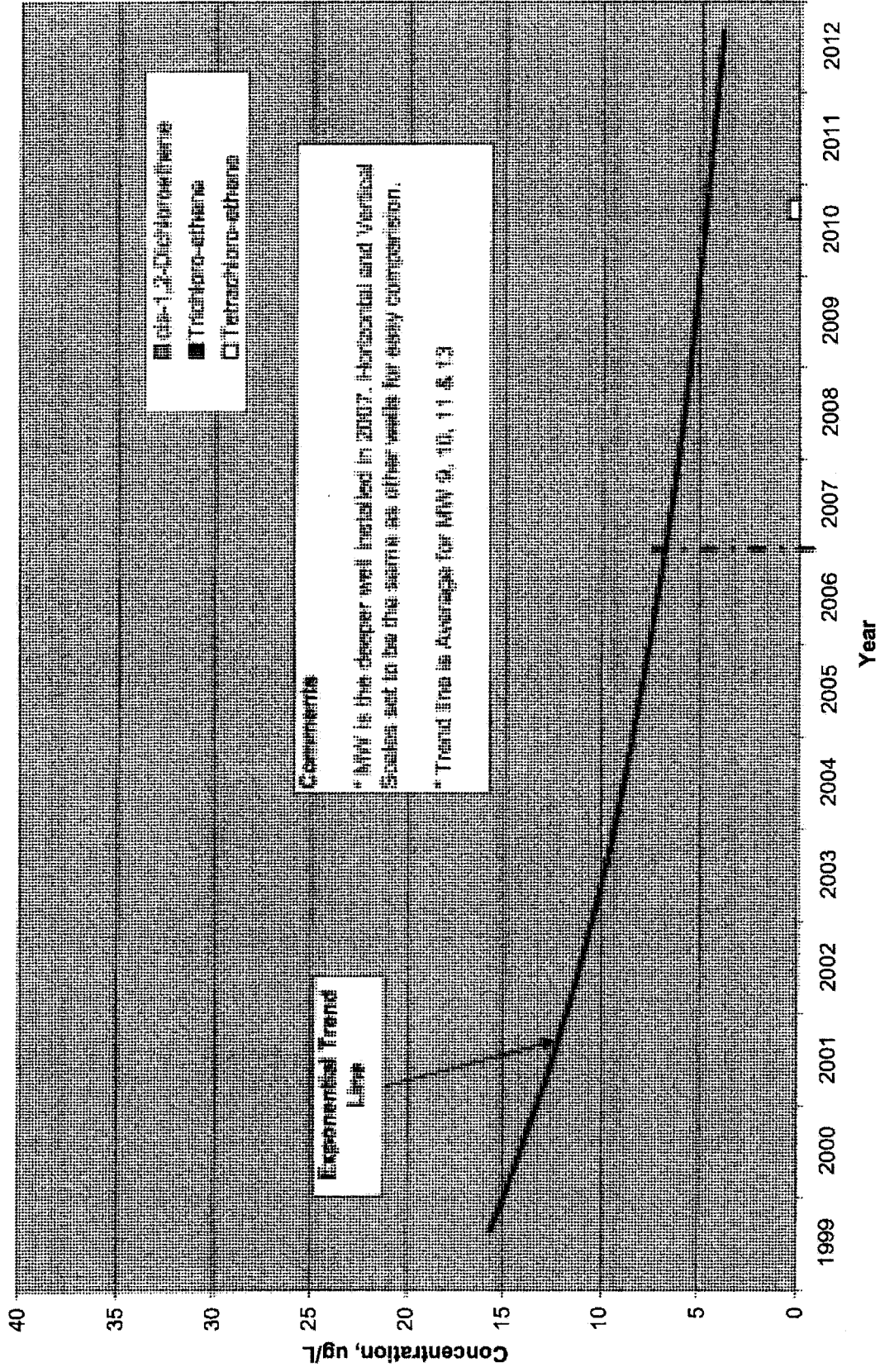
# Monitoring Well 11



D-4



# Monitoring Well 13



D-5



**TABLE 2**

D-6

**SUMMARY OF GROUNDWATER ANALYTICAL RESULTS**

BGF INDUSTRIES, INC.  
90 HUGER STREET, CHERAW, SC 29520

Constituent	MW-9	MW-10	MW-11	MW-13		MCL
Date	3/30/2012	3/30/2012	3/30/2012	3/30/2012		
Benzene	BDL	BDL	BDL	BDL		5
Toluene	BDL	BDL	BDL	BDL		1,000
Ethylbenzene	BDL	BDL	BDL	BDL		700
Xylenes (total)	BDL	BDL	BDL	BDL		210
BTEX (total)	BDL	BDL	BDL	BDL		NSE
p-Isopropyltoluene	BDL	BDL	BDL	BDL		NSE
Isopropylbenzene	BDL	BDL	BDL	BDL		660
Carbon Tetrachloride	BDL	BDL	BDL	0.47		5
Naphthalene	BDL	BDL	BDL	BDL		6
n-propylbenzene	BDL	BDL	BDL	BDL		240
n-butylbenzene	BDL	BDL	BDL	BDL		240
sec-butylbenzene	BDL	BDL	BDL	BDL		240
Methyl-tert-butyl-ether (MTBE)	BDL	BDL	BDL	BDL		11
1,2,4-Trimethylbenzene	BDL	BDL	BDL	BDL		70
1,3,5-Trimethylbenzene	BDL	BDL	BDL	BDL		12
1,2 Dichlorobenzene	BDL	BDL	BDL	BDL		600
tert-butylbenzene	BDL	BDL	BDL	BDL		240
Tetrachloroethene	4.8	5.8	6.1	BDL		5
cis-1,2-Dichloroethene	BDL	1.9	BDL	BDL		5
Trichloroethene	BDL	2.4	1.1	BDL		5
Chloroform	BDL	BDL	BDL	0.48		80
Acetone	BDL	4.1	BDL	BDL		100

N/A = Not Analyzed

BDL = Below Detection Limits

NSE = No Standard Established

**TABLE 1** **E 2**  
**Monitoring Well Information and Groundwater Elevations**

BGF INDUSTRIES, INC.  
90 Huger Street, Cheraw, SC 29520

Well Number	Top of Casing Elevation	Top of Screen Elevation	Bottom of Screen Elevation	Depth to Water	Groundwater Elevation
MW-1	101.31	93.31	83.31	16.21	85.10
MW-2	93.18	86.18	76.18	8.99	84.19
MW-4	93.63	83.63	73.63	9.30	84.33
MW-5	92.81	87.81	77.81	8.70	84.11
MW-7	94.77	91.77	81.77	10.23	84.54
MW-8	105.16	90.16	80.16	19.98	85.18
MW-9	104.11	95.11	85.11	19.13	84.98
MW-10	104.08	94.58	84.58	19.14	84.94
MW-11	103.52	93.52	83.52	18.60	84.92
MW-12	102.89	92.89	82.89	18.14	84.75
MW-13	103.91	78.91	68.91	19.28	84.63

All measurements taken in feet and based on an arbitrary benchmark of 100.00 feet by ATC Associates, Inc.  
Groundwater levels measured on 3/30/12



PHASE I  
ENVIRONMENTAL SITE ASSESSMENT  
AND COMPLIANCE REVIEW  
BGF Industries-Cheraw Plant  
90 Huger Street  
Cheraw, SC 29520  
ATC Project No. 16200.0001, Task No 4

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Water Monitoring, Assessment &  
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**PHASE I  
ENVIRONMENTAL SITE ASSESSMENT  
AND COMPLIANCE REVIEW  
BGF Industries-Cheraw Plant  
90 Huger Street  
Cheraw, SC 29520  
ATC Project No. 16200.0001, Task No 4**

**Prepared For:**

**BGF Industries  
401 Amherst Ave.  
Altavista, VA 24517-1513  
Attn: Ms. Remonia Davis**

**September 21, 1998**



5150 East 65th St  
Indianapolis, Ind  
46220-4  
317.849.4  
Fax 317.849.4

**PRIVILEGED AND CONFIDENTIAL PREPARED AT THE REQUEST OF  
BGF INDUSTRIES, INC. COUNSEL**

September 21, 1998

Ms. Remonia Davis  
BGF Industries  
401 Amherst Ave.  
Altavista, VA 24517

Re: Phase I Environmental Site Assessment and Compliance Review  
BGF Industries-Cheraw Plant  
90 Huger Street  
Cheraw, SC 29520  
ATC Project No. 16200.0001, Task No. 4

In accordance with ATC Proposal No. PE-980711 dated August 20, 1998, ATC Associates Inc. (ATC) has performed a Phase I Environmental Site Assessment on the above-referenced site. The purpose of this assessment was to evaluate potential environmental concerns from on-site or off-site sources. A review of Chesterfield County and South Carolina Department of Health and Environmental Control (SCDHEC) records was conducted to determine historical use of the property regarding possible hazardous substances usage, storage, or disposal. Public information concerning nearby properties was also reviewed. The attached report provides a summation of the findings of this study. This Phase I Environmental Site Assessment was performed following at a minimum the standards established in the American Society for Testing and Materials (ASTM) document Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process (ASTM Designation: E 1527-97). Please note, deviations and additions to this study include increased minimum search distances for certain record sources, issues on asbestos, lead in paint and other issues which may have been specially required to be researched by the client. A limited environmental compliance review was also performed as part of this study.

We trust this submittal is responsive to your needs. If you have any questions or comments regarding this report, or if we can be of further service to you, please do not hesitate to call.

Sincerely,

ATC ASSOCIATES INC.

A handwritten signature in black ink, appearing to read 'Chris Bishop'.

Christopher J. Bishop, C.P.G.  
Project Manager

A handwritten signature in black ink, appearing to read 'Kurtis H. Gilliam'.

Kurtis H. Gilliam, C.H.M.M.  
Senior Project Manager

**PRIVILEGED AND CONFIDENTIAL**  
**PREPARED AT THE REQUEST OF BGF INDUSTRIES COUNSEL**

**EXECUTIVE SUMMARY**

ATC Associates Inc. (ATC) was retained by BGF Industries to conduct a Phase I Environmental Site Assessment, in conformance with the scope and limitations of ASTM Standard Practice for Environmental Site Assessments (E 1527-97), of the BGF Industries-Cheraw Plant located at 90 Huger Street in Cheraw, SC. On September 1, 1998, ATC visited the site to visually identify potential environmental concerns. Any exceptions to, or deletions from this practice, including client specific requirements, are described in Sections 2.0 and 4.0 of this report.

The Cheraw plant is utilized for the production of two separate products (woven carbon fiber and scrim). The operations occur within one contiguous building that occupies approximately 74,050 square feet of floor space located on 6.33 acres of land on the south side of Cheraw, South Carolina. The facility was originally constructed in the 1940s and operated by Pee Dee Industries, a novelty textile company. Burlington Industries purchased the facility in the 1960s and utilized the plant for textile weaving. The facility was expanded around 1964 to include additional weaving, warehousing and screenprinting operations. The textile screening operation lasted approximately 8 years. Carbon fiber weaving was initially performed on site around 1982. The scrim operation was first performed on site in 1997.

The carbon weaving and scrim operations occur within the same building. The carbon weaving operation occupies the southwest portion of the building (approximately 39,500 sf) while the scrim operation occupies the northeast portion of the building (approximately 32,000sf).

ATC reviewed databases and files from federal, state and local environmental regulatory

agencies to identify use, generation, storage, treatment or disposal of hazardous materials and chemicals or release incidents of such materials which may impact the subject site. The records reviewed included: Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS), National Priorities List (NPL), Resource Conservation Recovery Information System (RCRIS), Treatment, Storage and Disposal Facilities (TSD) and Large Quantity Generators, Corrective Action Activities List (CORRACTS), Emergency Response Notification System (ERNS), Hazardous Materials Information Reporting System (HMIRS), Material Licensing Tracking System (MLTS), Toxic Chemical Release Inventory System (TRIS), Toxic Substances Control Act (TSCA), state registered underground storage tanks (UST), state leaking underground storage tank incident reports (LUST), state solid waste facilities/landfill sites (SWF/LS), state hazardous waste sites (SHWS), state spill incidents (SPILLS) and other local records.

This assessment has not revealed evidence of recognized environmental conditions in connection with the project site except for the following findings:

The facility previously operated a printing facility which printed on woven textile fabrics. A wastewater treatment facility was installed on site to treat the wastewater generated from the printing operation. Additional information concerning the operation of the treatment facility was not available. The treatment facility has been disassembled; however, remnants of the treatment facility are evident.

- **ATC recommends that a limited subsurface investigation be conducted to assess the potential for the former wastewater treatment facility to have impacted subsurface soil on site.**

Files maintained on site indicate that a 2,000 underground storage tank (UST) containing Varsol was previously located on the north central portion of the site. The Varsol was reportedly used to clean printing screens used on site. An Environmental Site Evaluation conducted by URS Consultants dated March 1988, indicated that the tank was removed from the site and no indications of contamination were noted. Records pertaining to the collection

and analysis of confirmatory soil samples were not discovered during this investigation.

- **ATC recommends a limited subsurface investigation be conducted in the vicinity of the former Varsol UST to assess the potential for the UST to have impacted subsurface environment.**

Historical files maintained on site suggest that a Vynol wash tank was located on the north central portion of the site. A visual reconnaissance of the area, conducted during this investigation, did not reveal the presence of an AST in the area indicated on a historical map of the facility. The Vynol tank was apparently associated with the former printing facility and was utilized to clean print screens from the operation.

- **ATC recommends a limited subsurface investigation be conducted in the vicinity of the former Vynol tank to assess the potential for the AST to have impacted the subsurface environment.**

Two USTs which contained fuel oil were previously located on the north central portion of the site. Visual evidence such as fill ports or vent pipes were not observed in the former UST area. A report prepared by URS Consultants dated March 1988, indicated that the USTs were removed in 19 . Based on the available information, confirmatory soil sampling was not performed during the tank excavation activities.

- **ATC recommends a limited subsurface investigation in the vicinity of the former fuel oil USTs to assess the potential for the USTs to have impacted the subsurface environment.**

A 500 gallon above ground tank (AST) which stored gasoline was previously located on the north central portion of the site. A visual reconnaissance of the area did not indicate the presence of an AST; however, some stressed vegetation was noted in the former location of the AST.



- **ATC recommends that a limited subsurface investigation be conducted in the vicinity of the AST to assess the potential for the AST to have impacted the subsurface environment in the vicinity of the AST.**

ATC performed a visual inspection of the facility to identify suspect asbestos containing materials (ACMs). ATC noted suspect ACMs including floor tile, ceiling tile, wallboard, plaster and pipe wrap. The materials appeared to be in good condition with the exception of some pipe wrap material located near the boiler room. The damaged material appeared to be fiberglass.

- **In their current condition these suspect materials do not appear to present a concern regarding potential health exposure to asbestos fibers. It is impossible to determine asbestos content of building materials based solely on visual observation. Laboratory analysis of building material samples is the only way to determine asbestos content. Given the good condition the construction materials are in, ATC recommends no further action at this time. In the event these materials become damaged, are to be removed or major renovation is planned, an asbestos bulk survey should be performed to determine potential asbestos content of these materials.**

ATC completed a visual inspection of the facility to identify potential lead based paint. Painted surfaces observed on site included but were not limited to walls, ceilings, floors, equipment, brick, pillars etc. The painted surfaces appeared to be in good condition with the exception of some deteriorated paint located on the ceiling outside the boiler room.

- **ATC recommends that damaged or deteriorated painted surfaces be repaired.**

The facility generates approximately one 55 gallon drum of used oil per year. The used oil is transported to the BGF facility in Altavista, Virginia for disposal.

- **As a good management practice, ATC recommends that local disposal options be considered.**

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BGF INDUSTRIES COUNSEL**

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COUNSEL**

**APPENDICES**

**APPENDIX A: PHOTOGRAPHIC DOCUMENTATION**

**APPENDIX B: UST CLOSURE DOCUMENTATION**

**APPENDIX C: SANBORN MAP**

**APPENDIX D: CHAIN-OF-OWNERSHIP**

**APPENDIX E: ENVIRONMENTAL DATA RESOURCES, INC. DATABASE SEARCH REPORT**

**APPENDIX F: AIR PERMIT**

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INDUSTRIES, INC. COUNSEL**

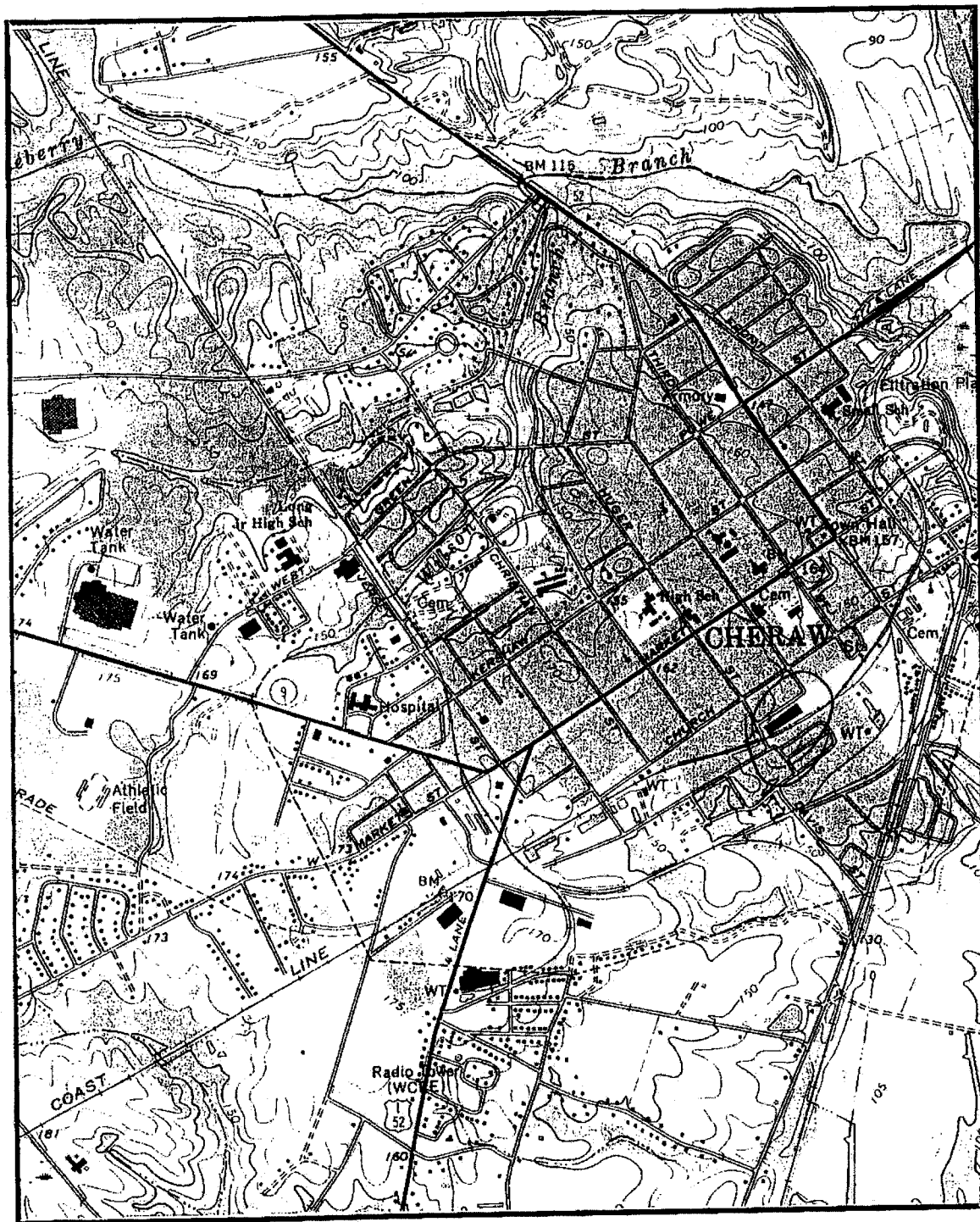
**PHASE I ENVIRONMENTAL SITE ASSESSMENT and  
COMPLIANCE REVIEW**

BGF Industries  
90 Huger Street  
Cheraw, SC 29520  
ATC Project No. 16200.0001, Task No. 4

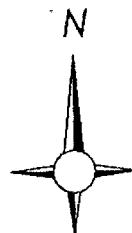
**1.0 INTRODUCTION**

BGF Industries, Inc. (client) retained ATC Associates Inc. (ATC) to perform a Phase I Environmental Site Assessment and Environmental Compliance Review (ATC Proposal No. PE- 980711) of the BGF Industries-Cheraw Plant, located at 90 Huger Street in Cheraw, SC 29520. Figure 1 identifies the project site and surrounding area. The site is currently owned by BGF Industries. The purpose of conducting this study was to assist the client in meeting due diligence requirements with regard to real estate property transactions. The scope of this project did not include defining the project site property boundaries and only refers to the project site location based on information provided to ATC by the client.

In accordance with the above-referenced agreement, ATC performed a walk-through investigation of the site, noted use of adjacent properties and conducted a historical and regulatory records search. This Phase I Environmental Site Assessment was performed following, at a minimum, the standards established in the American Society for Testing and Materials (ASTM) document Standard Practice of Environmental Site Assessments: Phase I Environmental Site Assessment Process (ASTM Designation: E 1527-97). A more detailed description of the scope of services follows:



USGS - CHERAW, SOUTH CAROLINA



## VICINITY MAP

PHASE I ENVIRONMENTAL SITE ASSESSMENT  
BGF INDUSTRIES  
90 HUGER STREET  
CHERAW, S. CAROLINA

Project Number:  
16200.0001

Drawing File:  
16200-1A

Date:  
9/98

Scale:  
1" = 2000'

Dwn. By:  
AA

Ckd. By:  
CB

App'd By:



Figure: 1

- A visual inspection of structures and surrounding properties was performed to identify potential sources of contamination such as underground storage tanks (USTs), aboveground storage tanks (ASTs), potential sources of polychlorinated biphenyls (PCBs), chemicals and hazardous materials.
- A review of available published geological and groundwater information obtained from the U.S. Geological Survey for the site vicinity.
- A review of directories, Cheraw County records, interviews with certain local officials and on-site interviews was conducted to identify owners or occupants who possibly used, generated, stored, treated or disposed of chemicals or hazardous materials on site.
- A review of historical aerial photographs of the site and adjacent properties was conducted to help identify previous activities which may have had a potential environmental impact.
- ATC reviewed the Environmental Data Resources, Inc. (EDR), database search of Federal regulatory records for environmental activities related to the site and potential off-site sources of chemical contamination. The databases reviewed and the radial search distance from the site are listed as follows:
  - a. National Priorities List (NPL): one mile
  - b. Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS): one mile
  - c. Resource Conservation and Recovery Information System (RCRIS) - Treatment, Storage and Disposal (TSD) Facilities and Large Quantity Hazardous Waste Generators: one mile
  - d. Resource Conservation and Recovery Information System (RCRIS) Small Quantity Hazardous Waste Generators: adjoining properties
  - e. Emergency Response Notification System (ERNS): project site
  - f. Corrective Action Report (CORRACTS): one mile
  - g. FINDS: three-fourths mile
  - h. Toxic Chemical Release Inventory System: three-fourths mile

- i. Toxic Substances Control Act: Target Property
  - j. Material Licensing Tracking System: Target Property
  - k. Hazardous Materials Information Reporting System: Target Property
- ATC reviewed the EDR database search of state regulatory records for environmental activities related to the site and potential off-site sources of chemical contamination. The databases reviewed and the radial search distance from the site are listed as follows:
    - a. Registered Underground Storage Tank (UST) List: one-fourth mile
    - b. Leaking USTs (LUSTs): one-half mile
    - c. State Hazardous Waste Sites (SHWS): one mile
    - d. State Priorities List: one mile
    - e. State Spills List: one-quarter mile
    - f. State Landfills: one-half mile

Regulatory records were limited to the quality of the Federal and State regulatory databases as maintained by South Carolina Department of Health and Environmental Control (SCDHEC) and EDR. Actual file retrieval and assessment was limited to specific sites of concern based on the database search. ATC has made a reasonable effort to obtain all pertinent information.

## **2.0 PHYSICAL SITE DESCRIPTION**

On September 1, 1998, a visual inspection and walk-through of the site was conducted by Christopher J. Bishop, ATC Project Manager and Kurtis H. Gilliam, Senior Project Manager. This inspection included an examination of the site and a reconnaissance of surrounding properties. Mr. Marion Berry, Cheraw Plant Manager and Ms. Remonia Davis, BGF Environmental Engineer, accompanied ATC during the visual inspection of the site. Weather conditions at the time of the site inspection were mostly sunny and about 86° F.

### **2.1 General Site Conditions**

#### **2.1.1 Physical Site Description**

The project site is located on the south side of the city of Cheraw, Chesterfield County, South Carolina. The site is found within the Cheraw, South Carolina 7.5 Minute Topographic Quadrangle map.

The Cheraw plant is used to manufacture two separate products (woven carbon fiber and scrim). The carbon weaving is operated under BGF Industries while the scrim production operates as Belmont of America. The operations occur within one contiguous building that occupies approximately 74,050 square feet of floor space located on 6.33 acres of land. The building is constructed of concrete block and brick with an interior steel support frame. The facility was originally constructed in the 1940s and operated by Pee Dee Industries, a novelty textile company. Burlington Industries purchased the facility in the 1960s and utilized the plant for textile weaving. The facility was expanded around 1964 to include additional weaving, warehousing and screenprinting. The textile screening operation lasted approximately 8 years. Carbon fiber weaving was initially performed on site around 1982. The scrim operation was first performed on site in 1997.



### **Carbon Weaving**

The carbon weaving operation occupies the southwest portion of the building (approximately 32,000 sf) with an additional 7,500 sf of warehouse on the northeast portion of the building. Carbon fiber yarn is supplied by Excel, Toyo, Amoco and others and is woven into the final product.

### **Belmont of America**

The scrim operation is located in the northcentral portion of the building (22,000 sf) with an additional 7,500 sf of warehouse space located on the northeast portion of the building. The scrim operation takes fiberglass yarn as provided by Owens Corning, PPG and others and sizes the material. The yarn then is passed over steam cans and then through a horizontal oven. The product is then packaged for distribution.

### **Exterior Areas**

The project site is essentially a rectangle with the long axis of the property oriented in a northeast southwest direction. The northeast portion of the site consists of a grass covered field with the remnants of a former wastewater treatment facility on the eastern portion of the site. Remnants from the wastewater treatment facility include a rectangular asphalt surface, a circular foundation located on the northern portion of the asphalt and concrete tank saddles. Some stressed vegetation was noted in the vicinity of the former wastewater treatment facility.

### **Finished Goods Warehouse**

The finished goods warehouse is located in the northeast portion of the building. The warehouse is shared between the carbon weaving and the scrim operations. Belmont of America uses a portion of the warehouse space as a mixing room. The PVA size is mixed with water in this area. A trench surrounds the mixing room to control spills from the mixing operation.

A site plan of the project site is provided in Figure 2. Photographic documentation is presented in Appendix A.

### **2.1.2 Site Geology**

The site has a generally level topography. The Cheraw, South Carolina Quadrangle Topographic Map (USGS, 1971) indicates the ground surface has an elevation of approximately 160 ft above mean sea level (MSL). Regionally the ground surface slopes to the southeast in the project area.

Runoff at the site is controlled by stormwater sewers, infiltration and sheet flow. Pee Dee River drains the study area. The river is located approximately 1.0 mile east of the site and flows from northwest to southeast.

The U.S. Department of Agriculture Soil Survey of Chesterfield County classifies the soil at the site as Noboco loamy sand. The Noboco soil series is characterized by very deep, well drained soils located on low ridges in broad, flat areas and interstream divides. The Noboco soils are moderately permeable (Morton, 1995). The Noboco soil formed in marine deposit when the ocean receded eastward. The site is located within the Coastal Plain region.

Regional groundwater flow direction is generally influenced by major hydrogeologic features such as a river or lake. Surface and/or bedrock topography may also influence regional groundwater flow direction. The available hydrogeologic information indicates that the regional groundwater flow is toward the east. It should be noted that local geologic features may cause local groundwater flow direction to differ from the regional flow direction. Local hydraulic gradient at the project site is interpreted based on a review of the USGS Topographic Quadrangle. A complete hydrogeologic investigation would be necessary to determine actual groundwater flow direction.

## **2.2 Storage Tanks**

### **2.2.1 Underground Storage Tanks (USTs)**

Based on information obtained during the visual inspection, on site records review and discussion with Mr. Marian Berry, USTs were previously located at the project site. The USTs included:

- 1 - 2,000 gal. Varsol Tank
- 1 - 5,000 gal Fuel Oil Tank
- 1 - 10,000 gal. Fuel Oil Tank

Varsol is a petroleum hydrocarbon based solvent similar to Napthalene. Varsol was previously used to clean looms on site. The waste Varsol was previously stored in a 2,000 gallon UST located on the north side of the property. During this investigation, physical evidence such as a product fill pipe, vent pipes or other indications of a UST were not noted in the former location of the Varsol tank. The tank was reportedly removed in January 1986. A copy of the Varsol tank removal notification is included as Appendix B.

Two fuel oil tanks were previously located on the north side of the property. The tanks reportedly stored fuel oil for the on site boiler. The tanks were removed in 1986; however, written documentation concerning the tank removal was not discovered during this investigation. During this investigation, physical evidence such as a product fill pipe, vent pipes or other indications of a UST were not noted in the former location of the fuel oil tanks. According to a previous environmental evaluation report prepared by URS Consultants dated March 1988, Mr. Bill Anderson of the James Fabric Plant, inspected the UST excavation and no evidence of visual contamination was noted.

### **2.2.2 Aboveground Storage Tanks (ASTs)**

Aboveground storage tanks (ASTs) are considered possible sources of surface and subsurface contamination. These concerns are due to surface spills and other releases which may result from improper usage and filling procedures.

Based on the visual inspection and discussion with Mr. Marion Berry, ATC observed one AST at the project site. The AST is located on the east side of the site and contains propane. A site sketch provided by BGF indicates that two ASTs were previously located on site. These tanks included:

1- 500 gasoline Tank

1- 4,400 gallon Vynol Tank

Both tanks were located on the north side of the facility. Based on a visual inspection of the site, no physical evidence such as concrete foundations, containment walls, pedestals or steel support structures were noted in the vicinity of the former AST location. According to Mr. Berry, Vynol is a solvent that was used to clean print screens on site.

No evidence of previous spills or leakage was observed associated the ASTs.

### **2.3 Polychlorinated Biphenyl Compounds (PCBs)**

Two pole mounted transformers and a electrical substation with three pad mounted units were observed on the north side of the site. The transformers are owned by South Carolina Power and Light. No signs of damage or leakage were noted associated with the transformers or electrical equipment within the substations. A blue sticker was noted on the transformers indicating that the transformers are non PCB containing. Approximately 15 dry type transformers are located inside the building. Dry transformers do not contain dielectric fluid and therefore are not a concern relative to PCBs.

## **2.4 Asbestos-Containing Materials (ACMs)**

A visual survey of the building showed suspect asbestos-containing materials (ACMs). Construction materials include, but may not be limited to, pipe insulation, wallboard, ceiling tile, joint compound and floor tile. Visually inspected construction materials were in good condition. In their current condition these suspect materials do not appear to present a concern regarding potential health exposure to asbestos fibers. It is impossible to determine asbestos content of building materials based solely on visual observation. Laboratory analysis of building material samples is the only way to determine asbestos content. Given the good condition the construction materials are in and the age of the building, ATC recommends no further action at this time. In the event these materials become damaged, are to be removed or major renovation is planned, an asbestos bulk survey should be performed to determine potential asbestos content of these materials.

According to the environmental evaluation prepared for the site by URS Consultants, asbestos containing materials were removed from the site in 1985.

## **2.5 Lead Based Paint**

Lead -based paint (LBP) is most frequently found in structures built prior to 1940, although all structures constructed prior to 1978 are at risk to contain LBP. In 1978 the Consumer Product Safety Commission (CPSC) under the authority of the Consumer Product Safety Act banned the sale of lead based paint to consumers. The most common route of exposure is the ingestion of lead bearing dust. During this assessment, ATC visually inspected painted surfaces on site to determine the condition of the painted surfaces. The painted surfaces observed were in good condition with no evidence of significant damage.

## 2.6 Utilities

Electrical service is provided by South Carolina Power and Light. Water service is provided by the city of Cheraw which obtains its water from the Pee Dee river. Sewer service to the project site is provided by the city of Cheraw. Natural gas is supplied by Scano.

## 2.7 Waste Management and Chemical Handling

Based on discussions with on-site personnel and visual observations, ATC found no evidence of hazardous waste generation currently at the site. According to the previous environmental evaluation (URS Consultants), the facility was registered as a hazardous waste storage facility in 1980. Apparently, hazardous waste was never shipped to the site. In 1982, Burlington Industries, the owner of the facility at that time, requested that the interim status of the facility be revoked rather than apply for a Part B permit. The facility is currently identified as a small quantity generator of hazardous waste. The hazardous waste identification number for the facility is SCD991278987.

Non-hazardous wastes (carbon fiber yarn) is collected in a dumpster located on site. Only household type refuse and carbon fiber yarn was noted in the dumpster at the time of this assessment. The dumpster is picked up for disposal through an agreement with Plyer Services.

Used oil generated from the machinery on site is collected in a 55 gallon drum and sent to the BGF Industries facility in Altavista, VA for disposal. Approximately one drum per year is generated on site.

### **3.0 ADJACENT LAND USE**

The project site is bordered on the north, east and west by single family residences. The Seaboard Coast Railroad line borders the site to the south followed by single family residences. Based on visual off site area reconnaissance, there is not an apparent potential for environmental impact to the project site from off site concerns.

### **4.0 SITE HISTORY AND RECORDS REVIEW**

Past land uses were investigated to identify historical practices or conditions which may have impacted the subject site. This included a chain-of-ownership records review and interviews with present site representatives, along with an analysis of aerial photographs and Sanborn Fire Insurance Maps. Regulatory records were also reviewed to determine if the subject site or other facilities within a specified radius of the subject site is or has been subject to regulatory action by federal, state or local environmental agencies.

#### **4.1 Prior Ownership and Usage**

Cheraw County records, on-site interviews with Mr. Marion Berry and a review of Sanborn Fire Insurance Maps (Sanborns) indicate that the historical use of the property has been a textile weaving plant since 1947.

Available Sanborn maps were reviewed for the years 1914, 1923, 1930, 1949 and 1955. The 1914, 1923 and 1930 maps indicate that the site was undeveloped. The 1949 and 1955 maps indicate the facility was developed as the Cheraw Weaving Mill.

Additional Sanborn maps were not available for the site coverage. Copies of the Sanborn maps are provided in Appendix C.



ATC visited the Chesterfield County Auditors office to review previous owners of the project site for the past 50 years. A list of previous owners is provided in Appendix D.

#### 4.2 Aerial Photography

ATC reviewed aerial photographs of the site available from the Natural Resources Soil Conservation Service dated 1963, 1975, 1987, and 1997. Figure 3 provides a copy of the 1997 photograph.

##### 1963

The BGF Industries facility is evident and residential housing is located on the east, north and west sides. A railroad line is located adjacent to the south of the site. It does not appear as if the warehouse portion of the facility (east end of the building) has been constructed.

##### 1975

This photograph depicts the building outline similar to that seen during this investigation. The adjacent properties are similar to the 1963 photograph. A structure is apparent in the vicinity of the former wastewater treatment area (east end of the property). Sludge drying beds are not evident in the vicinity of the wastewater treatment area. The parking lot on the southeast portion of the site does not appear well developed and a road leading from the plant to the wastewater treatment plant is not apparent.

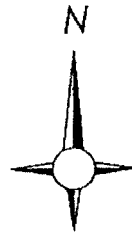
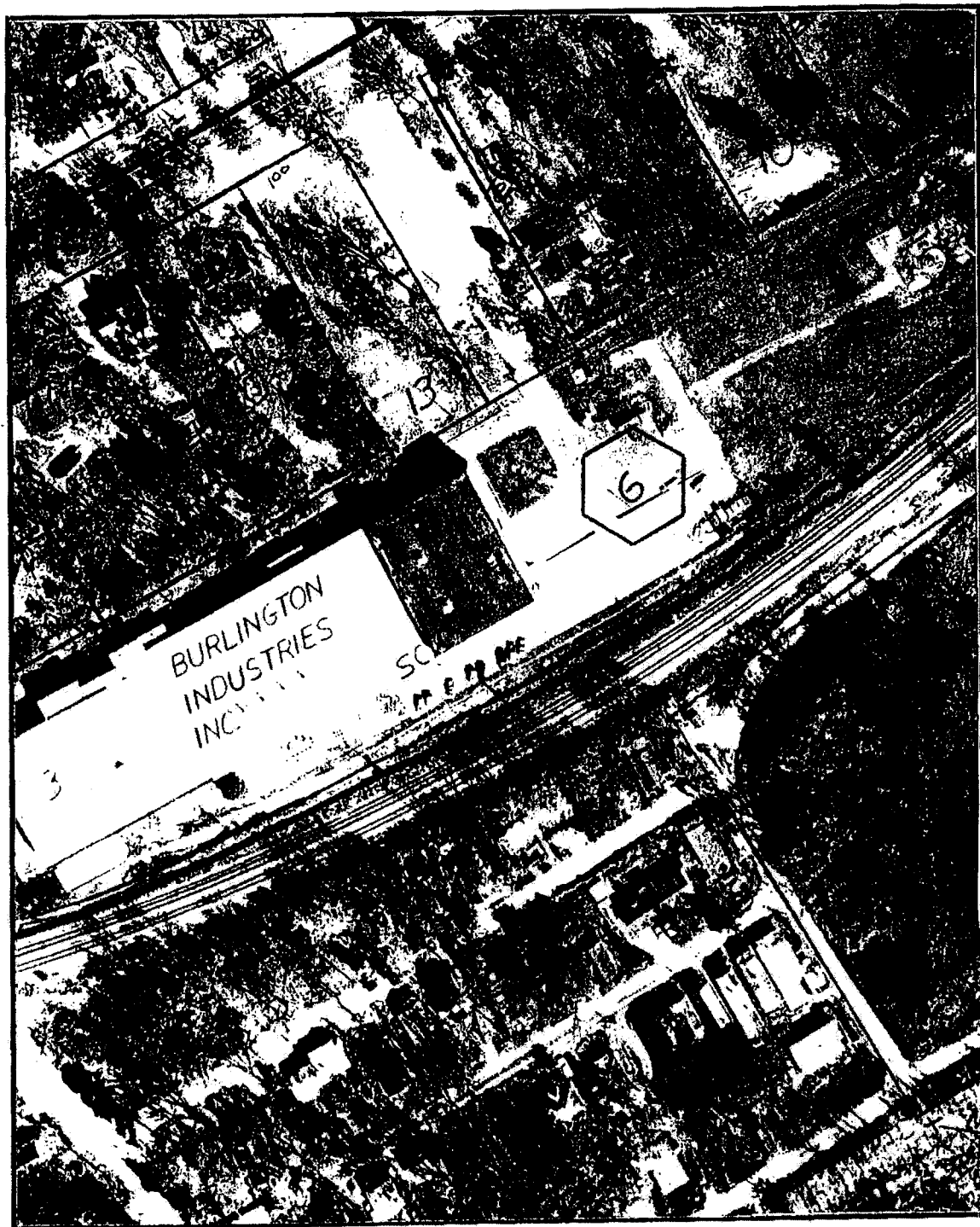
So - how  
can you see  
them?

1987

The site appears similar in configuration to that seen during this assessment. The parking area to the southeast is apparent as is a road leading to the eastern portion of the site. A concrete pad is apparent on the eastern portion of the site. Material appears to be stockpiled on the concrete pad. The surrounding area is similar to the 1975 photograph; however, the area had undergone some development.

1997

The 1997 photograph depicts the site and surrounding area similar to that seen during the site visit. The remnants of the wastewater treatment facility are apparent on the east portion of the site.



C:\DWG\1998\16200\0001

**AERIAL PHOTO - 1997**  
 PHASE I ENVIRONMENTAL SITE ASSESSMENT  
 BGF INDUSTRIES  
 90 HUGER STREET  
 CHERAW, S. CAROLINA

Project Number: 16200.0001		
Drawing File: 16200-1A		
Date: 9/98		
Scale: 1" = 400'		
Drn. By: AA	Ckd. By: CB	App'd By:



Figure: **3**

#### **4.3 Regulatory Records Review**

Databases of federal and state records listed below have been obtained by Environmental Data Resources, Inc. (EDR) and were reviewed to obtain information pertaining to the site and surrounding properties. A copy of the EDR database search report is provided in Appendix E.

- **United States Environmental Protection Agency (Region V)**

- NPL
  - CERCLIS
  - RCRIS
  - ERNS

- **State of Pennsylvania/SCDHEC**

- State Hazardous Waste Sites
  - Registered Aboveground Storage Tanks
  - Solid Waste/ Landfill Sites
  - UST/LUST Files
  - Leaking Aboveground Storage Tanks

##### **4.3.1 Federal**

###### NPL

The NPL is the U.S. EPA's list of uncontrolled or abandoned hazardous waste sites that have been identified for priority remedial actions under the Comprehensive Environmental Response, Compensation and Liability Act (Superfund). A review of the EDR database search did not show the project site as an NPL listed facility. There are no listed NPL facilities or properties within a one-mile search distance of the project site.

### CERCLIS

CERCLIS provides a list of facilities or properties to be investigated and assessed for possible inclusion on the NPL. A review of the EDR database search of the CERCLIS database did not show the project site or any property within one-mile of the site.

### NFRAP

CERCLIS sites designated as no further remedial action planned (NFRAP) are sites where following an initial investigation, no contamination was discovered or contamination was removed quickly without the need for placing the facility on the NPL, or the contamination was not serious enough to require Federal Superfund action or NPL consideration. The site was not identified on the NFRAP list.

### CORRACTS

The CORRACTS database lists hazardous waste handlers with RCRA corrective action. The facility was not identified on the CORRACTS database. Two facilities were identified on the CORRACTS database within one mile radius of the site. The CORRACTS sites include:

**Crown Cork and Seal**  
0.5 miles south  
Topographically cross gradient

**100 Evans Row Street**

**INA Bearing Co.**  
0.75 miles north  
Topographically cross gradient

**200 Evans Road**

Based on the distance of the CORRACTS facility from the nearest project site boundary, suspected geologic condition, and information discovered in the EDR database report, ATC concludes it is unlikely that prior releases from the Crown Cork and Seal or the INA Bearing

facility property would have significantly impacted the project site.

### RCRIS

ATC reviewed the EDR database search of the EPA Resource Conservation and Recovery Information System (RCRIS) database and the South Carolina State Hazardous Waste Sites list. The site was not present on the South Carolina State Hazardous Waste Sites list; nor were other facilities identified within a one half mile radius. No TSD facilities and one large quantity generators of hazardous waste were identified within a one-mile search distance of the site. The large quantity generator of hazardous waste was identified as:

**Cheraw Dyeing and Finishing**  
approximately 1/8 mile northeast  
topographically cross gradient

**Jersey and West Green Streets**

A review of the SCDHEC database did not identify RCRIS violations for Cheraw Dyeing and Finishing facility.

The site was listed as a small quantity generator of hazardous waste. A review of the SCDHEC database did not identify RCRIS violations for the site.

### ERNS

The U.S. EPA Emergency Response Notification System database was searched by EDR and reviewed by ATC to identify reported incidents that may have occurred within one-fourth mile of the site. No such incidents were reported within one-fourth mile of the site.

#### **4.3.2 State**

##### Solid/Hazardous Waste Files

The SCDHEC Solid/Hazardous Waste database was searched by EDR and reviewed the ATC for evidence of landfills and solid waste treatment facilities, within a one mile radius of the project site. The project site was not listed as a solid waste treatment facility. No such solid waste treatment facilities were identified within a one-mile search distance of the site.

##### Underground Storage Tanks

The SCDHEC UST database was searched by EDR and reviewed by ATC for information regarding properties within a one-fourth mile search radius of the site with registered USTs. The project site was not identified in the SCDHEC UST files. One facility that operate registered USTs within one-quarter mile was discovered. The name, address and approximate distance from the site is as follows:

**Cheraw Dyeing and Finishing**  
0.125 miles northeast  
topographically downgradient

**Jersey and W. Greene Streets**

Based on the distance of the USTs from the nearest project site boundary, suspected geologic condition, and information discovered in the EDR database report and in SCDHEC UST files, ATC concludes it is unlikely that prior releases from the USTs at the above mentioned property would have significantly impacted the project site.

##### Leaking Underground Storage Tanks

ATC reviewed the EDR database search and SCDHEC records concerning reported leaking

USTs. No evidence of a reported leaking UST at the project site was discovered. Six facilities within one-half mile of the project site have reported leaking USTs. The LUST facilities are summarized below:

<b>Markette #3</b> 0.28 miles northwest topographically cross gradient	<b>800 Market St.</b>
<b>Brock's Gulf</b> 0.28 miles northwest topographically cross gradient	<b>811 Market St.</b>
<b>Southern Bell</b> 0.35 miles northeast topographically cross gradient	<b>309 Market St.</b>
<b>Motor Inn</b> 0.35 miles northeast topographically cross gradient	<b>249 2<sup>nd</sup> St.</b>
<b>Gate Petroleum #311</b> 0.4 miles northeast topographically cross gradient	<b>243 market St.</b>
<b>Market and Marion</b> 0.48 miles west topographically upgradient	<b>Market and Marion St.</b>

Based on the distance of the LUSTs from the nearest project site boundary, suspected geologic condition, and information discovered in the EDR database report and in SCDHEC LUST files, ATC concludes it is unlikely that prior releases from the LUSTs at the above mentioned properties would have significantly impacted the project site.



#### **4.3.3 Local**

ATC provided a written request for information to the Cheraw County Health Department regarding complaints, violations and/or enforcement actions for the project site. At the time of this report preparation, the Cheraw County Health Department had not responded to our request. Upon receipt and review of the Cheraw County Health Department response, ATC will provide an addendum to this report.

ATC attempted to contact Mr. Roy Allson with the Cheraw Fire Department regarding known adverse environmental conditions at the project site. According to Mr. Allson, the fire department has no files pertaining to incidents involving hazardous materials at the site. Communication records are provided in Appendix B.

## **5.0 REGULATORY COMPLIANCE REVIEW**

ATC conducted a limited compliance review of on-site documentation concerning on-site operations. This review was not a compliance Review and did not attempt to determine whether documentation at the site was accurately filed with applicable agencies, whether agencies were in receipt of all documents reviewed by ATC, and whether documents reviewed were representative of all operations, including past operations not observed by ATC. ATC conducted the environmental review at the site by comparing existing conditions, as observed during the site reconnaissance, with current regulatory requirements in hazardous materials/substances control, hazardous waste management and documentation, and other compliance topics including, but not necessarily limited to, air emissions, wastewater discharges, and solid waste management.

ATC completed a limited regulatory compliance review for the subject site. The compliance review focused on two general areas: 1) general permit status (including Title V of the Clean Air Act), and 2) SARA Title III reporting. Overall, operations and documentation at the site were generally in compliance with current state and federal regulations concerning environmental issues. A good working knowledge of environmental compliance was demonstrated by the site contacts interviewed by ATC for this environmental review.

### **5.1 General Permit Status**

#### **5.1.1 Water**

##### Wastewater

The Clean Water Act developed a National Pollutants Discharge Elimination System (NPDES) permitting system. In general NPDES permits regulate discharges of wastewater and storm water into "waters of the United States". In South Carolina the SCDHEC has responsibility for issuing and maintaining compliance with these permits.

The facility releases wastewater to the City of Cheraw publicly owned treatment works (POTW). Wastewater from the facility consists primarily of sanitary wastewater. Small amounts of size (PVA from the Belmont operation) and alcohols may also be released to the POTW. The city apparently does not require a permit or effluent sampling for these releases. No correspondence from the city regarding this issue was discovered by ATC during this investigation.

The facility discharges wastewater to a sanitary sewer system operated by the city of Cheraw. The BGF facility is not required to have a permit to discharge to the city sewer because the flow from the plant is less than 50,000 gallons per day.

#### Storm Water

NPDES Storm Water Discharge regulations apply to specific types of industries as well as specific types of industrial activities. SCDHEC is responsible for developing and implementing the NPDES Storm Water Discharge Permit program in South Carolina. The facility has an SIC code of 22 (textile

It appears that, based on the nature of operations at the facility and the fact that no chemicals or products are stored outside the building, the facility is exempt from the NPDES Storm Water Permitting regulations. Stormwater from the facility is discharged to the combined sewer system through a series of surface inlets.

#### Spill Prevention Control and Countermeasures

In general, any facility that stores 42,000 gallons of petroleum products underground, 660 gallons in a single aboveground container or 1,320 gallons cumulative aboveground is required to prepare a Spill Prevention Control and Countermeasures SPCC Plan (40 CFR 112). Based on visual observation and a review of on site records, the facility does not meet the requirements for a SPCC plan.

### **5.1.2 Air**

A source in an attainment area with the potential to emit 100 tons per year or more of any criteria pollutant (carbon monoxide, nitrogen dioxide, particulate matter, volatile organic compounds, lead, and/or sulfur dioxide) is regulated as a major source under the Clean Air Act (CAA). The CAA also regulates emissions of 189 hazardous air pollutants (HAPs). A facility with the potential to emit 10 tons/year or more of any single HAP or 25 tons/year or more of any combination of HAPs is considered a Title V major air emission source. A major source may be required to prepare and submit a permit application under Title V of the CAA.

There are essentially two types of air emissions from the BGF facility. A natural gas fired boiler and process emissions from the scrim operation.

A construction permit for the installation of the boiler and scrim operation was granted by the South Carolina Department of Environmental Health and Control, Permit No 0660-0038-CA and CB dated August 5, 1996. In addition, the BGF applied for and received from the SCDHEC an Operating Permit for the facility (Permit No. 0660-0038). The effective date of the operating permit is July 6, 1998 and the permit expires in June 2003. A copy of the air permit is included as Appendix F.

Based on a review of the on-site documents and interviews with on-site personnel, the facility appears to be in compliance with the requirements of the CAA.

### **5.1.3 Hazardous Waste Generation**

Regulations promulgated under RCRA regulate the characterization, handling and disposal of hazardous waste. The SCDHEC has primacy for regulating hazardous waste activities

in South Carolina. Based on the information provided by BGF during this investigation, it appears that the facility does not generate hazardous waste.

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## **5.2 SARA Title III Reporting**

Based on the reported quantities of materials used and stored at the site, it appears that the facility is subject to Section 302/311/312 of the Emergency Planning and Community Right-to-Know Act (EPCRA) of 1986, also known as Title III of the Superfund Amendments and Reauthorization Act (SARA). The facility submitted a Tier Two form identifying fiberglass as being stored on-site in excess of the threshold quantity in 1997. Appendix I contains a copy of the Tier Two submittal. PVA apparently was not stored on-site in large quantities during 1997.

No chemicals were reported as manufactured, process or otherwise used in excess of the threshold quantities under SARA Section 313.

## **6.0 CONCLUSIONS AND FINDINGS**

This Phase I Environmental Site Assessment included a reconnaissance visit to the subject site, a review of the previously listed available environmental database and related agency information for the site and surrounding properties, interviews, aerial photographs, published geologic information, and other related items. This information was used to evaluate existing or potential environmental impairment of the site due to current or past land use disclosed by this study.

ATC has performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Standard Practice for Environmental Site Assessments of the BGF Industries-Cheraw Plant facility located at 90 Huger Street in Cheraw, South Carolina. Any exceptions to, or deletions from this practice including client specific requirements are described in Sections 2.0, and 4.0 of this report. This assessment has revealed no evidence of recognized environmental conditions in connection with the project site, with the exception of the following matters.

The facility previously operated a printing facility which printed on woven textile fabrics. A wastewater treatment facility was installed on site to treat the wastewater generated from the printing operation. Additional information concerning the operation of the treatment facility was not available. The treatment facility has been disassembled; however, remnants of the treatment facility are evident.

- **ATC recommends that a limited subsurface investigation be conducted to assess the potential for the former wastewater treatment facility to have impacted subsurface soil on site.**

Files maintained on site indicate that a 2,000 underground storage tank (UST) containing Varsol was previously located on the north central portion of the site. The Varsol was

reportedly used to clean printing screens used on site. A Phase I ESA conducted by URS Consultants indicates that the tank was removed from the site and no indications of contamination were noted. Records pertaining to the collection and analysis of confirmatory soil samples were not discovered during this investigation.

- **ATC recommends a limited subsurface investigation be conducted in the vicinity of the former Varsol UST to assess the potential for the UST to have impacted subsurface environment.**

Historical files maintained on site suggest that a Vynol wash tank was located on the north central portion of the site. A visual reconnaissance of the area, conducted during this investigation, did not reveal the presence of an AST in the area indicated on a historical map of the facility. The Vynol tank was apparently associated with the former printing facility and was utilized to clean print screens from the operation.

- **ATC recommends a limited subsurface investigation be conducted in the vicinity of the former Vynol tank to assess the potential for the AST to have impacted the subsurface environment.**

Two USTs which contained fuel oil were previously located on the north central portion of the site. Visual evidence such as fill ports or vent pipes were not observed in the former UST area. A report prepared by URS Consultants dated March 1988, indicated that the USTs were removed in 1986. Based on the available information, confirmatory soil sampling was not performed during the tank excavation activities.

- **ATC recommends a limited subsurface investigation in the vicinity of the former fuel oil USTs to assess the potential for the USTs to have impacted the subsurface environment.**

A 500 gallon above ground tank (AST) which stored gasoline was previously located on the north central portion of the site. A visual reconnaissance of the area did not indicate the presence of an AST; however, some stressed vegetation was noted in the former location of the AST.

- **ATC recommends that a limited subsurface investigation be conducted in the vicinity of the AST to assess the potential for the SAST to have impacted the subsurface environment in the vicinity of the AST.**

ATC performed a visual inspection of the facility to identify suspect asbestos containing materials (ACMs). ATC noted suspect ACMs including floor tile, ceiling tile, wallboard, plaster and pipe wrap. The materials appeared to be in good condition with the exception of some pipe wrap material located near the boiler room. The damaged material appeared to be fiberglass.

- **In their current condition these suspect materials do not appear to present a concern regarding potential health exposure to asbestos fibers. It is impossible to determine asbestos content of building materials based solely on visual observation. Laboratory analysis of building material samples is the only way to determine asbestos content. Given the good condition the construction materials are in, ATC recommends no further action at this time. In the event these materials become damaged, are to be removed or major renovation is planned, an asbestos bulk survey should be performed to determine potential asbestos content of these materials.**

ATC completed a visual inspection of the facility to identify potential lead based paint. Painted surfaces observed on site included but were not limited to walls, ceilings, floors, equipment, brick, pillars etc... The painted surfaces appeared to be in good condition with the exception of



some deteriorated paint located on the ceiling outside the boiler room.

- **ATC recommends that damaged or deteriorated painted surfaces be repaired.**

The facility generates approximately one 55 gallon drum of used oil per year. The used oil is transported to the BGF facility in Altavista, Virginia for disposal.

- **As a good management practice, ATC recommends that local disposal options be considered.**

## **7.0 QUALIFICATIONS**

Our professional services have been performed, our findings obtained and our recommendations prepared in accordance with customary principles and practices in the fields of environmental science and engineering. This warranty is in lieu of all other warranties either express or implied. This company is not responsible for the independent conclusions, opinions or recommendations made by others based on the field exploration and laboratory test data presented in this report.

It should be noted that all surficial environmental assessments are inherently limited in the sense that conclusions are drawn and recommendations developed from information obtained from limited research and site evaluation. Subsurface conditions were not field investigated as part of this study and may differ from the conditions implied by the surficial observations. Additionally, the passage of time may result in a change in the environmental characteristics at this site and surrounding properties.

This study is not intended to assess or otherwise determine if any deep soil contamination, waste emplacement, or groundwater contamination exist. These data are accessible only by subsurface material and groundwater sampling through the completion of soil borings and the installation of monitoring wells. The scope of work, determined by the client, did not indicate these activities.

The work performed in conjunction with this assessment and the data developed resulted from available information at the dates and locations given in the records searched and visible and accessible evidence on the site. Consequently, this report does not warrant or guarantee that any and all problems that may exist at the site were disclosed, nor does it warrant against operations or conditions present of a type or at a location not investigated, nor against future operations or conditions.

## **8.0 REFERENCES**

### **Interviews:**

Ms. Remonia Davis	BGF Industries Fiberglas Corp.
Mr. Marion Berry	BGF Industries Fiberglas Corp.
Mr. Greg Slominsky	BGF Industries Fiberglas Corp.
Mr. Roy Allison	Cheraw Fire Department

### **Research:**

Environmental Data Resources, Inc., February 26, 1998. ASTM-Compliant Phase 1 ESA  
Radial Search Report: BGF Industries, 90 Huger Street Cheraw, SC

Chesterfield County Auditors Office

Morton, Ronald 1995, Soil Survey of Chesterfield County, South Carolina: United States  
Department of Agriculture, Soil Conservation Service

URS Consultants Environmental Site Evaluation, March 1988

Polk's Cheraw City Directory (1945-Present)

United States Department of the Interior, Geologic Survey, Topographical Map Cheraw,  
South Carolina Quadrangle, 1963, Photo Revised 1981.



# South Carolina Department of Health and Environmental Control

E. Kenneth Aycock, M.D., M.P.H.  
Commissioner

2600 Bull Street  
Columbia, S.C. 29201

## CONSTRUCTION PERMIT

Burlington Industries

Permit No. 2852-C Project No. \_\_\_\_\_ Date of Issue March 7 19 74

Permission is hereby granted to  
Burlington Industries  
Pee-Dee Plant, P.O. Box 845, Cheraw, S.C.  
for construction of the waste treatment system covered by plans, specifications,  
engineering report and Construction Permit Application No. \_\_\_\_\_ dated Nov. 15, 1973,  
signed by J.S. Ameen Registered Professional Engineer, S.C. Registration No. 2876  
County Chesterfield Type of Facility A chemical pretreatment system having  
recycling capabilities comprising units for neutralization, chemical precipitation, dissolved  
air floatation and sludge handling.

Receiving Stream Cheraw Sewer System Tributary to \_\_\_\_\_

Basin Pee Dee Volume 300,000 gpd

Effluent BOD<sub>5</sub> see below Chlorination No  
(mg/l)

Other Effluent Requirements: Effluent limitations for this permit are those detailed in the  
Sewer Use Ordinance for the Town of Cheraw, South Carolina.

Special Conditions: \*This permit is not issued in conformance with the National Pollutant Dis-  
charge Elimination System pursuant to Section 402 of the Federal Water Pollution Control  
Act Amendments of 1972 (PL 92-500).

This permit covers construction of the facility only, and is not to be considered an  
Operating or Discharge Permit, temporary or otherwise.

EXPIRATION DATE: Unless construction is initiated prior to March 6, 1975,  
it will be necessary to reapply since this permit will no longer be  
valid.

E. K. Aycock M.D.

E. Kenneth Aycock, M.D.

Charles P. V. [Signature]

Bureau of Waste Water and  
Stream Quality Control

Facility Classified Group III. The Code of Laws of S.C. require the applicant to provide a  
certified operator to manage the facility. Further details may be obtained from the S.C.  
Board of Operator Certification.

**Burlington Industries, Inc.**

Executive Offices  
P. O. Box 21207  
Greensboro, North Carolina 27420

RECEIVED  
ENGINEERING BRANCH

3-6-74

March 4, 1974

Mr. J. Donovan Dukes  
Engineer, Project Coordinator  
Industrial Wastewater Section  
S. C. Department of Health & Environmental Control  
2600 Bull Street  
Columbia, South Carolina 29201

Reference: Burlington - Pee Dee Plant  
Chesterfield County  
Cheraw, S. C.

Dear Mr. Dukes:

With reference to your letter of February 11 concerning the sludge handling at the proposed pre-treatment plant for the Burlington Pee Dee Plant, we are enclosing plans in quadruplicate to indicate how sludge is to be handled.

As you are aware, sludge from dissolved air flotation is highly entrained and contains carryover moisture. Therefore, we are proposing to concentrate this sludge by decanting the solids through three concentration tanks. The sludge will then be pumped to a large holding tank for accumulation prior to dewatering in the drying beds. The supernatant will be passed to the municipal sewer.

Very truly yours,

**BURLINGTON INDUSTRIES, INC.**

*J. S. Ameen*

J. S. Ameen  
Pollution Control Engineer

/ao

Enclosure

cc: Messrs. B. Keenum - James Fabrics  
M. Kessler - Pee Dee  
T. Moore - 3330



**South Carolina State Board of Health**  
**Division of Sanitary Engineering**  
**AND**  
**Water Pollution Control Authority**  
**COLUMBIA, SOUTH CAROLINA**

**APPLICATION FOR PERMIT**

To Discharge Sewage, Industrial Wastes or Other Waste  
Application for Approval of Plans and Specifications for a Waste  
Pretreatment Plant.

In accordance with the applicable provisions of Chapter No. 3, Title 70, Vol. 6, 1952 Code of Laws of South Carolina, and the Regulations of the South Carolina Water Pollution Control Authority, application is hereby made by

Burlington Industries, Inc., Pee Dee Plant, Cheraw, South Carolina  
Name of City, Town, Industry, Corporation, Individual, etc.

of Cheraw, South Carolina in Chesterfield  
Name of Municipality Name of County

and located at P. O. Box 845, Huger Street, Cheraw, S. C.  
For industries show post office address or location

approval of plans and specifications for a waste pretreatment  
for ~~pretreatment or discharge~~ facility which will discharge  
Domestic waste and/or industrial wastes

into Municipal Sewer System of Cheraw, S. C.  
Name of receiving water and drainage basin

at a daily rate not to exceed 300,000 gallons per day.

Contact the following official Mr. William Keenum, Div. Engr., Pee Dee Plant  
if additional data are required or should a field visit be necessary.

Quantity and quality of sewage and/or industrial wastes; principal features of present or proposed treatment and waste recovery; and point of discharge are as follows:

This proposal is for a waste pretreatment plant to chemically treat all waste from the Pee Dee Plant prior to discharge into the municipal sewer of the City of Cheraw. The system involves neutralization and equalization, chemical precipitation, dissolved air flotation, and recycling capabilities.

Date November 15, '73 Signed Burlington Industries, Inc.  
City, Corporation, or Other Official Name

By W. I. English  
Official Directly Responsible

Application No. \_\_\_\_\_

Director of Engineering  
Official Title



**South Carolina State Board of Health**

Division of Sanitary Engineering

AND

**Water Pollution Control Authority**

COLUMBIA, SOUTH CAROLINA

**APPLICATION FOR PERMIT**

To Discharge Sewage, Industrial Wastes or Other Waste

**Application for Approval of Plans and Specifications for a Waste Pretreatment Plant.**

In accordance with the applicable provisions of Chapter No. 3, Title 70, Vol. 6, 1952 Code of Laws of South Carolina, and the Regulations of the South Carolina Water Pollution Control Authority, application is hereby made by

Burlington Industries, Inc., Pee Dee Plant, Cheraw, South Carolina

Name of City, Town, Industry, Corporation, Individual, etc.

of Cheraw, South Carolina

Name of Municipality

in Chesterfield

Name of County

and located at P. O. Box 845, Huger Street, Cheraw, S. C.

For Industries show post office address or location

approval of plans and specifications for a waste pretreatment facility which will discharge

for ~~pretreatment to discharge~~

Domestic waste and/or industrial wastes

into Municipal Sewer System of Cheraw, S. C.

Name of receiving water and drainage basin

at a daily rate not to exceed 300,000 gallons per day.

Contact the following official Mr. William Keenum, Div. Engr., Pee Dee Plant if additional data are required or should a field visit be necessary.

Quantity and quality of sewage and/or industrial wastes; principal features of present or proposed treatment and waste recovery; and point of discharge are as follows:

This proposal is for a waste pretreatment plant to chemically treat all waste from the Pee Dee Plant prior to discharge into the municipal sewer of the City of Cheraw. The system involves neutralization and equalization, chemical precipitation, dissolved air flotation, and recycling capabilities.

Date November 15, '73

Signed Burlington Industries, Inc.

City, Corporation, or Other Official Name

By W. I. English

Official Directly Responsible

Application No. \_\_\_\_\_

Director of Engineering

Official Title



# **SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL**

## **BOARD MEMBERS**

Lechlan L. Hyett, Chairman  
William M. Wilson, Vice-Chairman  
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J. Howard Stokes, M.D.

E. KENNETH AYCOCK, M.D., M.P.H., COMMISSIONER  
J. MARION SIMS BUILDING — 2400 BULL STREET  
COLUMBIA, SOUTH CAROLINA 29201

February 4, 1974

## **MEMORANDUM**

TO: Don Dukes, Environmental Engineer  
Industrial & Agricultural Wastewater

FROM: Nelson L. Hardwick *NLH*  
Environmental Engineer  
Solid Waste Management Division

I have reviewed the plans for Burlington Industries, Inc., Pee Dee Plant, Cheraw, South Carolina, and if the two (2) following requirements are met by the firm there should be no problems created at a sanitary landfill by the sludge.

- 1) The pH should be 8.5 and not less than 8.0
- 2) The drying beds shown on the plans should be used so that the sludge can be dried to 35 percent solids.

NLH:dah



CHARLES R. JACKSON  
MAYOR



GLEN S. KIRKLEY, M. L. KOONTZ, R. W. MOFFAT, R. R. SIPE  
COUNCILMEN

DARRELL D. BURCH  
CLERK AND TREASURER

# THE TOWN OF CHERAW

CHERAW, SOUTH CAROLINA 29520

December 6, 1973

S. C. Water Pollution Control Div.  
2600 Bull Street  
Columbia, South Carolina

Attention: Mr. Donovan Dukes

Dear Mr. Dukes:

At the request of Mr. Bill Keenum, Pee Dee, Inc. Cheraw, S. C. We are advising you of our ability and willingness to accept for treatment waste water from the Pee Dee plant.

Waste water will be accepted for treatment as per attached sewer use ordinance.

Very truly yours,

  
R. R. "Reg" Sipe  
City Administrator

RRS/cn

*"The Prettiest Town In Dixie"*

**Burlington Industries, Inc.**

November 14, 1973

Executive Offices  
P. O. Box 21207  
Greensboro, North Carolina 27420

Dr. H. J. Webb  
Director  
South Carolina Dept. of Health and Natural Resources  
1321 Lady Street  
P. O. Box 11628  
Columbia, South Carolina 29211

Subject: Waste Pretreatment  
Burlington Industries, Inc.  
Pee Dee Plant  
Cheraw, South Carolina

Dear Dr. Webb:

Please find enclosed, plans and specifications, Engineering Report, and Application for Approval, in duplicate, for a waste pretreatment plant proposed for the Burlington Industries, Inc., Pee Dee Plant, Cheraw, South Carolina.

We are hereby requesting your approval of these plans and specifications so that we may proceed with construction of this facility. Should your staff have questions pertaining to this proposal, please do not hesitate to advise.

Very truly yours,

BURLINGTON INDUSTRIES, INC.

  
J. S. Ameen  
Pollution Control Engineer

/eh

Enclosures: Plans and Specifications  
Engineering Report  
Application for Approval

RECEIVED  
ENGINEERING BRANCH  
11/29/73

South Carolina Dept. of Health and Natural Resources  
Page - 2  
November 14, 1973

cc: Messrs. B. M. Keasler - Pee Dee  
William Keenum - Pee Dee  
William Bowden - Pee Dee  
Merrill Davis - BHF  
Thomas A. Moore - Engr./3330  
R. R. Sipe, City Manager, Pee Dee



# South Carolina Department of Health and Environmental Control

DD

E. Kenneth Aycock, M.D., M.P.H.  
Commissioner

2600 Bull Street  
Columbia, S.C. 29201

Offices  
1207  
North Carolina 27420

## CONSTRUCTION PERMIT

Burlington Industries

2852-C Project No. \_\_\_\_\_ Date of Issue March 7 19 74

Permission is hereby granted to  
Burlington Industries  
Pee-Dee Plant, P.O. Box 845, Cheraw, S.C.  
for the construction of the waste treatment system covered by plans, specifications,  
and report and Construction Permit Application No. \_\_\_\_\_ dated Nov. 15, 1973,

by S. Ameen Registered Professional Engineer, S.C. Registration No. 2876

for esterfield Type of Facility A chemical pretreatment system having

capabilities comprising units for neutralization, chemical precipitation, dissolving

and sludge handling.

Cheraw Sewer System Tributary to \_\_\_\_\_

Volume 300,000 gpd

Chlorination No

Effluent Requirements: see below (mg/l)

Effluent limitations for this permit are those detailed in the  
ordinance for the Town of Cheraw, South Carolina.

Conditions: \*This permit is not issued in conformance with the National Pollutant Dis-

tribution System pursuant to Section 402 of the Federal Water Pollution Control

Act of 1972 (PL 92-500).

This permit covers construction of the facility only, and is not to be considered an

Operating or Discharge Permit, temporary or otherwise.

DATE: Unless construction is initiated prior to March 6, 1975

it will be necessary to reapply since this permit will no longer be

valid.

E. Kenneth Aycock, M.D.  
Commissioner

Charles P. Aycock  
Bureau of Waste Water and  
Stream Quality Control

Classified Group III. The Code of Laws of S.C. require the applicant to provide a  
operator to manage the facility. Further details may be obtained from the S.C.  
operator Certification.

**Burlington Industries, Inc.**

January 15, 1974

DD  
Executive Offices  
P. O. Box 21207  
Greensboro, North Carolina 27420

Mr. Don Dukes, P.E.  
Sanitary Engineer  
S. C. Dept. of Health & Environmental Control  
Bureau of Air Quality Control  
2600 Bull Street  
Columbia, South Carolina 29201

Dear Mr. Dukes:

With reference to our telephone conversation of January 14 regarding waste pretreatment plans for the Pee Dee Plant, Cheraw, S. C., this is to advise that these plans were prepared under the supervision of Engineering Registration No. 2876, State of South Carolina.

Very truly yours,

BURLINGTON INDUSTRIES, INC.

*J. S. Ameen*  
J. S. Ameen, P.E.  
Pollution Control Engineer

/eh

RECEIVED  
ENGINEERING BRANCH

1-16-74

**Limited Phase II Environmental Site Assessment  
BGF Industries, Inc.  
90 Huger Street  
Cheraw, South Carolina 29520  
ATC Project No. 90745.8550**

**Report of Limited Phase II Environmental Site Assessment**  
**BGF Industries, Inc.**  
90 Huger Street  
Cheraw, South Carolina 29520  
ATC Project No. 90745.8550

**Prepared For:**

**Ms. Remonia Davis**  
**BGF Industries, Inc.**  
401 Amherst Ave.  
Altavista, VA 24517

**Submitted By:**

**ATC Associates Inc.**  
3440-F St. Vardell Lane  
Charlotte, North Carolina 28217  
Phone: (704) 529-3200  
Fax: (704) 529-3272

**October 12, 1998**

**RECEIVED**

**NOV 19 1998**

**Water Monitoring, Assessment &  
Protection Division**



3440-F St. Vardell Lane  
Charlotte, NC 28217  
704.529.3200  
Fax 704.529.3272

October 12, 1998

Ms. Remonia O. Davis  
Corporate Environmental Manager  
**BGF INDUSTRIES, INC.**  
401 Amherst Avenue  
Altavista, Virginia 24517

RE: Report of Limited Phase II Environmental Site Assessment  
**BGF Industries, Inc.**  
90 Huger Street  
Cheraw, South Carolina 29520  
ATC Project No. 90745.8550

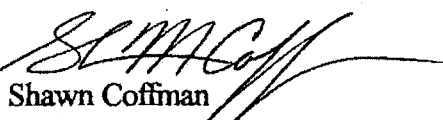
Dear Ms. Davis:


ATC Associates Inc. (ATC) has completed a Limited Phase II Environmental Site Assessment (ESA) for the above-referenced site. This report includes the results of our findings from soil and groundwater sampling conducted on various portions of the site.

Based on the results of this assessment, further evaluation is warranted. Specific findings are presented in the text of this report.

ATC appreciates the opportunity to be of service to BGF Industries, Inc. In the meantime, if you have questions about information in this report or if ATC can be of further assistance, please contact ATC at (704) 529-3200.

Sincerely  
**ATC Associates Inc.**

  
Shawn Coffman  
Project Manager

  
Kevin R. Sommers, PE  
Branch Manager



## EXECUTIVE SUMMARY

On September 23 and 24, 1998, and on October 6, 1998, ATC Associates Inc. (ATC) performed a Limited Phase II Environmental Site Assessment (ESA) of the BGF Industries facility located at 90 Huger Street, Cheraw, South Carolina, herein referred to as the "site". The Limited Phase II ESA included subsurface sampling of soil and groundwater at various portions of the site. BGF Industries, Inc. requested ATC perform the Limited Phase II ESA based upon identification of recognized environmental conditions in ATC's Phase I ESA dated September 21, 1998.

Sixteen soil borings were performed using a truck mounted Geoprobe to a depth of 16 feet below ground surface on September 23 and 24, 1998. Soil samples were collected and analyzed for Total Petroleum Hydrocarbons (TPH) Gasoline Range Organics (GRO), TPH Diesel Range Organics (DRO), Volatile Organic Compounds (VOCs), and RCRA Metals. Analytical results for soil samples collected from soil borings SB-1 through SB-11 indicated the presence of metals (arsenic, barium, chromium and lead) in site soils. Analytical results for soil samples collected from soil borings SB-9 through SB-11 indicated the presence of VOCs in site soils. Analytical results from soil borings SB-12 and SB-13 indicated the presence of TPH-DROs. Analytical results for groundwater samples collected from borings SB-1 through SB-6 indicated the presence of metals (arsenic, barium, chromium, mercury and lead) in site groundwater. Based on ATC's preliminary findings, BGF Industries requested ATC conduct additional assessment activities to provide information regarding the horizontal and vertical extent of impact to site soils and groundwater.

ATC performed additional assessment activities on October 6, 1998. Eleven additional soil borings were advanced to the depth of groundwater (12 to 20 feet below land surface). Soil and groundwater samples were collected and analyzed for Volatile Organic Compounds (VOCs), polynuclear aromatic hydrocarbons (PAHs) and RCRA Metals. Analytical results for soil and groundwater samples collected from borings B-17 through B-21 indicated the presence of metals (barium, chromium and lead) in site soils and groundwater. Analytical results for the groundwater sample collected from boring B-24 indicated the presence of tetrachloroethene (solvent constituent). Analytical results for the groundwater sample collected from boring B-26B indicated the presence of VOCs and PAHs. Indications of free product (fuel oil) were observed in the groundwater sample collected from boring B-26. Further horizontal delineation of constituents observed in B-24 and B-26 was restricted by property boundaries and physical restriction (site structure).

Based on the analytical results of soil and groundwater samples collected during this investigation, multiple compounds exceed the South Carolina Department of Health and Environmental Control (SCDHEC) reporting limits. ATC recommends that this data be reported to the SCDHEC in accordance with the SCDHEC Bureau of Water guidelines. Additional assessment or remediation activities may be directed by the SCDHEC Bureau of Water.

## LIMITED PHASE II ENVIRONMENTAL SITE ASSESSMENT

**BGF Industries**  
90 Huger Street  
Cheraw, South Carolina  
ATC Project No. 90745.8550

### 1.0 INTRODUCTION

On September 18, 1998, ATC Associates Inc. (ATC) was authorized by Ms. Remonia Davis of BGF Industries, Inc. to conduct a Limited Phase II Environmental Site Assessment (ESA) of the BGF Industries property located at 90 Huger Street, in Cheraw, South Carolina (see *Appendix A, Figure 1, Site Vicinity Map*). The site currently is occupied by a woven carbon fiber and scrim manufacturing facility. This evaluation was conducted in accordance with ATC Proposal Nos. PE-980777 (September 9, 1998) and 45-25-98-8536 (October 5, 1998).

The purpose of this assessment was to perform sampling and analysis of subsurface soil and groundwater to identify the presence or absence of potential hazardous substances and/or petroleum impacts to the site from potential on-site sources identified in the September 21, 1998, Phase I ESA prepared by ATC.

Historical information obtained during the Phase I ESA performed by ATC indicated five areas of environmental concern associated with historical site usage by previous site owners: a former wastewater treatment facility, a former 7,000-gallon capacity underground storage tank (UST) that contained varsol, a former 4,400-gallon capacity above ground storage tank (AST) that contained vynol, two former USTs (5,000-gallon and 10,000-gallon capacity, respectively) that contained fuel oil, and a former 500-gallon capacity AST that contained gasoline. Based on ASTM 1527-97, these areas were identified as on-site recognized environmental conditions.

ATC performed a Limited Phase II ESA to further evaluate the potential for on-site contamination that may have resulted from the above-referenced concerns. This Limited Phase II ESA included 27 soil borings at various locations throughout the site (*Appendix A, Figure 2*). This report presents the results of ATC's investigation including sample locations, field methodologies employed, subsurface observations, soil and groundwater analytical results, and recommendations for further actions if necessary.

## 2.0 SITE DESCRIPTION AND HISTORY

The site is located at 90 Huger Street in Cheraw, Chesterfield County, South Carolina. The site is bound on the north by residential properties; on the east by undeveloped, wooded land and residential properties; on the south Seaboard Airline Rail Road tracks and beyond by residential properties; and on the west by Huger Street and beyond by residential properties.

In September 1998, ATC performed a Phase I ESA for the site identifying environmental concerns associated with historical usage of the property. The following concerns were noted in the Phase I ESA report.

- Former wastewater treatment facility;
- Former 7,000-gallon capacity varsol UST;
- Former 4,400-gallon capacity vynol AST;
- Former 10,000-gallon capacity fuel oil UST;
- Former 5,000-gallon capacity fuel oil UST; and
- Former 500-gallon capacity gasoline AST.

According to a site plan provided by Mr. Marion Berry of BGF Industries, and conversations with Mr. Berry, the three former USTs and the two former ASTs were located adjacent to the northwest side of the site building near the compressor room (see *Appendix A, Figure 2 - Site Layout Map*). The USTs were not listed on the state registered UST database. According to Mr. Berry, the USTs were permanently closed by removal in 1986 by the previous owners of the facility.

Due to the unknown age and lack of removal documentation of the USTs and ASTs, the former tanks are considered an environmental concern to the site. Additionally, a former wastewater treatment plant (WWTP) was located at the northeast end of the property. Due to the unknown waste stream treated at the facility, the former WWTP is considered an environmental concern to the site.

According to historical sources, the site has been utilized as a textile manufacturing facility since at least 1949. BGF Industries, Inc. was identified as the current property owner.

### 3.0 ASSESSMENT METHODOLOGY

#### 3.1 Geoprobe Investigation

Sixteen Geoprobe borings (SB-1 through SB-16) were advanced at the site on September 23 and 24, 1998, by Subsurface Environmental Investigations, LLC (SEI) of Statesville, North Carolina. Eleven additional Geoprobe borings (SB-17 through SB-27) were advanced at the site on October 6, 1998, by SEI. Geoprobe borings were advanced at the locations shown in *Figure 2* of *Appendix A*. Soil and groundwater samples were obtained by direct push methodology. Prior to advancing the probe, the down-hole probing equipment was decontaminated with a Liqui-Nox® / water solution and rinsed with a high pressure steam cleaner. Soil samples were obtained by hydraulically advancing a retractable, conical, steel tipped sampler into the ground. An intact soil sample was then retrieved within a single-use polyethylene liner.

#### 3.2 Soil Sample Collection

Soil samples were collected continuously from the ground surface to boring completion in 4-foot increments and logged by an ATC scientist in the field. The collected soil samples were split into two portions. The first portion was placed in a laboratory approved sample container, marked with identifying numbers, and placed on ice. The second portion of the sample was field screened with an organic vapor meter (OVM). The samples collected on September 23 and 24, 1998, were screened with an HNu Model DL-101 Data Logging Photo-Ionization Detector (PID). The samples collected on October 6, 1998, were screened with a Foxboro 128 Flame-Ionization Detector (FID) equipped with a methane filter. OVM readings are listed in *Table 1* and on the attached boring logs. Soil sample descriptions are presented in boring logs found in *Appendix C*.

##### 3.2.1 Investigation conducted September 23 and 24, 1998

Soil samples SB-1 through SB-6 were collected from the area of the former WWTP and were advanced to approximately 10 feet below land surface (BLS). Soil samples SB-7 through SB-11 were collected from the area of the former varsol UST and the former vynol AST and were advanced to approximately 16 feet BLS. Soil samples SB-12 through SB-16 were collected from the area of the former fuel oil USTs and the former gasoline AST and were advanced to approximately 16 feet BLS.

### **3.3 Groundwater Monitoring and Sampling**

#### **3.3.1 Investigation conducted September 23 and 24, 1998**

When sufficient quantities of water were encountered (SB-1 through SB-6) a groundwater sample was collected by using a peristaltic pump and single-use, 1/4-inch inner diameter (ID) polyethylene tubing. Dedicated tubing was used for each sample location to ensure sample integrity. The groundwater samples were placed in appropriate laboratory approved glass containers with Teflon lined lids. The groundwater samples were marked with identifying numbers, placed on ice with appropriate chain of custody, and transported to Pace Analytical Laboratory for analysis. The groundwater samples were analyzed for RCRA Metals.

#### **3.3.2 Investigation conducted October 6, 1998**

Groundwater samples were collected from borings B-17 through B-27. Groundwater samples were collected using the methods described in section 3.3.1 of this report. The groundwater samples collected from B-17 through B-21 were analyzed for RCRA Metals using EPA Method 6010B; the groundwater samples collected from B-22 through B-25 were analyzed for VOCs using EPA Method 8260; and the groundwater samples collected from B-26 and B-27 were analyzed for VOCs using EPA Method 8260 and polynuclear aromatic hydrocarbons (PAHs) using EPA Method 8270. Collected groundwater samples were transported under appropriate chain of custody and hand delivered by ATC's field representative to Shealy Environmental Services, Inc.'s analytical laboratory located in Columbia, South Carolina.

## **4.0 INVESTIGATION RESULTS**

### **4.1 Site Geology/Hydrogeology**

The property site is located within the Atlantic Coastal Plain Physiographic province, which consists of an eastward-thickening wedge of stratified, unconsolidated to semi-consolidated alluvial and marine deposits. These sediments consist primarily of sand, clay, silt and gravel, with variable amounts of shell material, which range in age from Cretaceous to Recent (Holocene). Unconformably underlying the Coastal Plain sediments is a crystalline basement rock surface composed of massive igneous rocks and highly deformed metamorphic rocks that range in age from Precambrian to lower Paleozoic. The basement surface forms the basal limit of the Coastal Plain hydrogeologic system, which consists of a

surficial, unconfined water table aquifer and confined to semi-confined aquifers separated by intervening aquitards (less permeable units).

It should be noted that shallow soils beneath the site may have been altered to facilitate present-day development. As such, a subsurface soil evaluation would need to be conducted to verify actual soil types and conditions. Such an evaluation was beyond the scope of this assessment.

Subsurface soils encountered during soil boring activities conducted as part of this investigation consisted of various compilations of sand, silt and clay. Groundwater was encountered at approximately 10 to 12 feet below land surface (BLS) in the borings located near the former WWTP. Ground water was encountered at 18 to 20 feet BLS in the borings located adjacent to the northwest side of the building.

Based on surface topography as interpreted from the USGS topographic map, groundwater beneath the site is anticipated to mimic surficial topography. As such, groundwater beneath the site is anticipated to generally flow to the southeast. However, actual groundwater flow direction can also be influenced by other factors such as the presence of underground structures, seasonal fluctuations and variations in geologic formations. To verify current groundwater depth and flow characteristics, a minimum of three monitoring wells would need to be installed on site in a triangulated configuration. Such an evaluation was beyond the scope of this assessment.

#### **4.2 Organic Vapor Readings**

Results of the OVM field screening performed during assessment activities indicated organic vapors ranged from not detected to 250 parts per million (ppm). OVM readings are presented in *Table 1 (Appendix B)* and are included on the boring logs presented in *Appendix C*.

#### **4.3 Soil Analytical Results**

Analytical results for soil samples collected from soil borings SB-1 through SB-11 and B-17 though B-21 indicated the presence of metals (arsenic, barium, chromium, lead and mercury) in site soils at concentrations greater than the method detection limits. Soil samples from 13 borings exhibited metals concentrations significantly greater than background concentrations. A review of "Elemental Concentrations in Soils and Other Surficial Materials of the Coterminous United States" (Shacklette and Boerngen, 1984) indicated that the identified metals may occur in natural

concentrations approaching or exceeding the levels observed in site soils. However, SCDHEC requires the reporting of chemicals-of-concern identified at concentrations greater than analytical instrument detection limits.

Analytical results for soil samples collected from soil borings SB-9 through SB-11 indicated the presence of VOCs in site soils at concentrations greater than the method detection limits. Analytical results from soil borings SB-12 and SB-13 indicated the presence of TPH-DROs in site soils at concentrations greater than the method detection limits. Soil analytical results are summarized in *Table 2*; laboratory reports are included in *Appendix D*.

#### **4.4 Groundwater Monitoring Results**

The depth to groundwater observed in borings SB-1 through SB-6 on September 24, 1998, and B-17 through B-20 on October 6, 1998 was approximately 10 feet BLS. The depth to groundwater observed in borings SB-21 through SB-27 on October 6, 1998, was approximately 20 feet BLS. Indications of free product (fuel oil) were observed in the groundwater sample collected from boring B-26. Free product was not observed other boring locations.

#### **4.5 Groundwater Analytical Results**

Analytical results for soil and groundwater samples collected from borings SB-1 through SB-6 and B-17 through B-21 indicated the presence of metals (barium, chromium, lead and mercury) in site groundwater at concentrations greater than the method detection limits. Groundwater samples from five borings exhibited metals concentrations significantly greater than background concentrations.

Analytical results for the groundwater sample collected from boring B-24 indicated the presence of tetrachloroethene (solvent constituent) at concentrations greater than the method detection limits. Analytical results for the groundwater sample collected from boring B-26B indicated the presence of VOCs and PAHs at concentrations greater than the method detection limits. Further horizontal delineation of constituents observed in B-24 and B-26 was restricted by property boundaries and physical restriction (site structure). Groundwater analytical results are summarized in *Table 3*; laboratory reports are included in *Appendix D*.



## 5.0 CONCLUSIONS AND RECOMMENDATIONS

This Limited Phase II Environmental Site Assessment included subsurface sampling of soil and groundwater at the BGF Industries Cheraw, South Carolina site. ATC performed this Limited Phase II ESA to further evaluate the potential for on-site contamination that may have resulted from on-site operations. This Limited Phase II ESA included 27 soil borings performed at various locations throughout the site (*Appendix A, Figure 2*). Soil and groundwater samples were collected for laboratory analysis.

The laboratory analytical results of soil and groundwater samples collected during this Limited Phase II ESA have indicated the presence of RCRA metals, TPH-DROs and VOCs in site soils, and RCRA metals, VOCs and PAHs in site groundwater. Specific concentrations of identified constituents of concern are outlined in *Table 2* and *Table 3* in *Appendix B* of this report.

Based on the analytical results of soil and groundwater samples collected during this investigation, multiple compounds exceed the South Carolina Department of Health and Environmental Control (SCDHEC) reporting limits. ATC recommends that this data be reported to the SCDHEC in accordance with the SCDHEC Bureau of Water guidelines. Additional assessment or remediation activities may be directed by the SCDHEC Bureau of Water.

## 6.0 LIMITATIONS

Our professional services have been performed, our findings obtained, and our recommendations prepared in accordance with customary principles and practices in the fields of environmental science and engineering. This statement is in lieu of other statements either expressed or implied. This company is not responsible for the independent conclusions, opinions or recommendations made by others based on the records review, site observations, field exploration, and laboratory test data presented in this report.

It should be noted that environmental evaluations are inherently limited in the sense that conclusions are drawn and recommendations developed from information obtained from limited research and site evaluation. For these types of evaluations, it is often necessary to use information prepared by others and ATC cannot be responsible for the accuracy of such information. Additionally, the passage of time may result in a change in the environmental characteristics at this site and surrounding properties. This report does not warrant against future operations or conditions, nor does this warrant operations or conditions present of a type or at a location not investigated. This report is not a regulatory compliance audit and is not intended to satisfy the requirements of any state, federal, or local real estate transfer laws.

This report is intended for the sole use of BGF Industries, Inc. This report may not be used or relied upon by any other party without the written consent of ATC. The scope of services performed in execution of this evaluation may not be appropriate to satisfy the needs of other users, and use or re-use of this document or the findings, conclusions, or recommendations is at the risk of said user.

Our conclusions regarding the potential environmental impact of nearby, off-site facilities on the site are based on limited sampling of soil and groundwater obtained by a Geoprobe. Actual groundwater conditions, including direction of flow, can only be determined through the installation of monitoring wells.

ATC does not warrant the correctness, completeness, currentness, merchantability, or fitness of any information related to records review provided in this report. Such information is not the product of an independent review conducted by ATC, but is only publicly available environmental information maintained by federal, state, and local government agencies.

It should be recognized that this study was not intended to be definitive investigation of contamination at the subject property. Although the scope of services for this investigation was limited and that exploratory borings, soil and groundwater sampling, and analytical testing were undertaken, it is

possible that currently unrecognized contamination may exist at the site and that levels of this potential contamination may vary across the site.

## **7.0 REFERENCED DOCUMENTS**

1. U.S.G.S. Topographic Map, Cheraw, South Carolina, 1971
2. South Carolina Geologic Survey, Geologic Map of South Carolina, 1995
3. Phase I Environmental Site Assessment for BGF Industries – Cheraw Plant, ATC Associates Inc., September 21, 1998
4. Elemental Concentrations in Soils and Other Surficial Materials of the Coterminous United States”, Shacklette and Boemgen, 1984.

## **APPENDIX A**

### **FIGURES**



# Groundwater Sampling 2013 Results

BGF Industries, Inc. Cheraw Weaving Facility

BGF Industries, Inc, 90 Huger Street, Cheraw SC

April 16, 2013

BGF Industries Project Manager: Greg Slominski

BGF Industries Plant Manager: Karen Adeimy

Contractor Manager; Henry Nemargut Engineering Services: Henry Nemargut

Prepared for Judy Canova  
Project Manager  
State Remediation Section  
Bureau of Land and Waste Management  
SCDHEC  
2600 Bull Street  
Columbia, SC 29201

---

**For DHEC use:**

Received by QA Office:

Reviewed by:

Approved by:

**RECEIVED**

APR 19 2013

SITE ASSESSMENT,  
REMEDICATION &  
REVITALIZATION

56

## Summary

This report documents spring 2013 groundwater results for BGF Industries Plant in Cheraw SC. Henry Numargut's full report and lab attachments are included.

Purge and sampling for the site was successful and followed the procedure laid out for this study in the Groundwater Sampling and Analysis Plan dated March 19, 2013.

Results are best summarized by Chart 6A. This chart displays the historic trend of average VOC values of wells in the primary area of interest. As a composite view of key wells, it best displays the groundwater situation in the area of interest. The chart indicates each VOC constituent is below MCL and the sum of all measured VOCs is less than 5 ug/l.

## 1.0 Introduction

BGF owns and operates a weaving facility at 90 Huger Street, Cheraw, Chesterfield County. The plant participated in MNA since 1999 for VOCs. Groundwater results indicate a successful MNA program with values now at or below MCL.

### 1.1 Site Name

BGF's Cheraw Weaving Plant.

### 1.2 Sampling Area Location

All wells on the property able to yield flow were sampled. The primary interest is an 8,000 sf area where historic tanks were located circa Burlington Industries ownership of the site.

### 1.3 Responsible Agency

South Carolina Department of Health and Environmental Control.

### 1.4 Project Organization

Title/Responsibility	Name	Phone Number & e-mail
DHEC Project Manager	Judy Canova	803-896-4046 canovajl@dhec.sc.gov
BGF Project Manager	Greg Slominski	434-369-4751 <a href="mailto:gslominski@bgf.com">gslominski@bgf.com</a>
Contractor	Henry Nemargut Nemargut Engineering	910-762-5475 <a href="mailto:henrynemargut@bellsouth.net">henrynemargut@bellsouth.net</a>
Primary Laboratory	Angie Overcash Prism Labs	800-529-6364 <a href="mailto:aovercash@prismlabs.com">aovercash@prismlabs.com</a>
Plant Manager of Facility	Karen Adeimy	843-537-3172 <a href="mailto:kadeimy@bgf.com">kadeimy@bgf.com</a>



## **2.0 Background**

BGF Industries owns and operates a weaving facility at 90 Huger Street, Cheraw, Chesterfield County. The facility weaves carbon and other synthetic fibers for industrial composites.

BGF acquired the plant in 1988. The prior owner was Burlington Industries, (BI). BI used the plant primarily for weaving. Finishing in the form of dying and printing were performed at some periods of time as business conditions changed. A packaged water treatment plant once pre-treated sanitary water before discharge into Cheraw's POTW. The packaged plant and all above and below ground tanks were removed prior to BGF acquiring the property.

DHEC's recommendation in 2012 was to develop a Sampling and Analysis Plan from which a reassessment on the frequency of testing could be made. This report provides the results for that consideration.

## **2.1 Site Description**

The site is used as an industrial textile plant with weaving and associated support activities. The plant is a small quantity waste generator; Solid Waste EPA ID # is SCR000075671.

Terrain is essentially flat with minimal topographic variation as is common throughout this part of Chesterfield County. The plant is in the Cheraw town limits in a mixed use area including residences, industry, and commercial property. A railroad line flanks the property.

A detailed groundwater receptor study was performed and submitted to DHEC on August 4, 2011. No active drinking wells were discovered.

## **2.2 Environmental and / or Human Impact**

Over the last decade results have steadily declined to levels at or below the MCL of 5 ug/l. Low levels of groundwater contamination and lack of groundwater drinking wells reduce the environmental impact of BI's legacy releases.

The site is fenced further controlling the site and minimizes the chance of soil disturbance.

Testing on the property indicated contaminant remained relative isolated around the historic location of tanks. A deeper well, MW-13 indicated vertical diffusion was minimal.

## **3.0 Data Quality Objectives**

Data quality goals were met during sampling.:

- ▶ All wells were purged on March 28<sup>th</sup>.
- ▶ On April 2<sup>nd</sup> samples were collected using a low flow controller and parastatic pump.
- ▶ QC samples, pump blank and duplicate samples were obtained.

#### 4.0 Sampling Overview

Flow rates from certain wells were anticipated to be a problem. Developing wells prior to sampling with in-line flow monitoring proved successful for all but MW 10. That well didn't have enough water to develop or sample.

During sampling flow rates were adjusted to maintain a steady height while field parameters were checked with the in-line flow meter. Inline meter readings were checked to ensure groundwater was stable before samples were drawn. MW 9 was running out of water before optimal stabilization. All other wells were within the target stabilization range.

Stabilization Parameter	Stabilization Range
pH	0.2 units
DO	0.2 mg/l
Conductivity	0.020 mS/cm
ORP (Redox)	20 millivolts

#### 5.0 Disposal of Residual Materials

Water removed during development was retained on-site in barrels. BGF will retain the water pending review from DHEC.

## 6.0 Sampling Results

The following table summarizes wells and results. Full information is provided in Henry Numargut's report.

MW ID	General Location	Maintained Flow gal/min	2013 Comments & Flagged Results (ug/l)
1	Background near RR Tracks	240	
2	"	200	
3	"	n/a	Abandoned Well not sampled
4	Near former Drying Beds	140	Exceptionally high water level. Possibly due to lack of cover gasket or cracked casing allowing infiltration.
5	Near former Waste Water System	140	
6	"	n/a	Abandoned Well not sampled
7	"	54	Muddy, slow recovery
8	Background near parking lot	330	
9	Former Tank Area	53	Low water level and recovery rate
10	Former Tank Area	n/a	Insufficient water to develop or subsequently sample. Deemed stagnant and not representative of groundwater.
11	Former Tank Area	150	5.5 Tetrachloroethene 0.99 Trichloroethene
12	Former Tank Area	150	3.9 Tetrachloroethene 0.67 Trichloroethene
13	Former Tank Area	200	0.9 Carbon Tetrachloride
13 Dup	Former Tank Area	"	0.9 Carbon Tetrachloride

## 6.1 Results / Charts of the Area of Interest

Results are graphed of the primary area of interest (8,000 sf where historic tanks were located). Charts 6 A through E display results from 1999 to present.

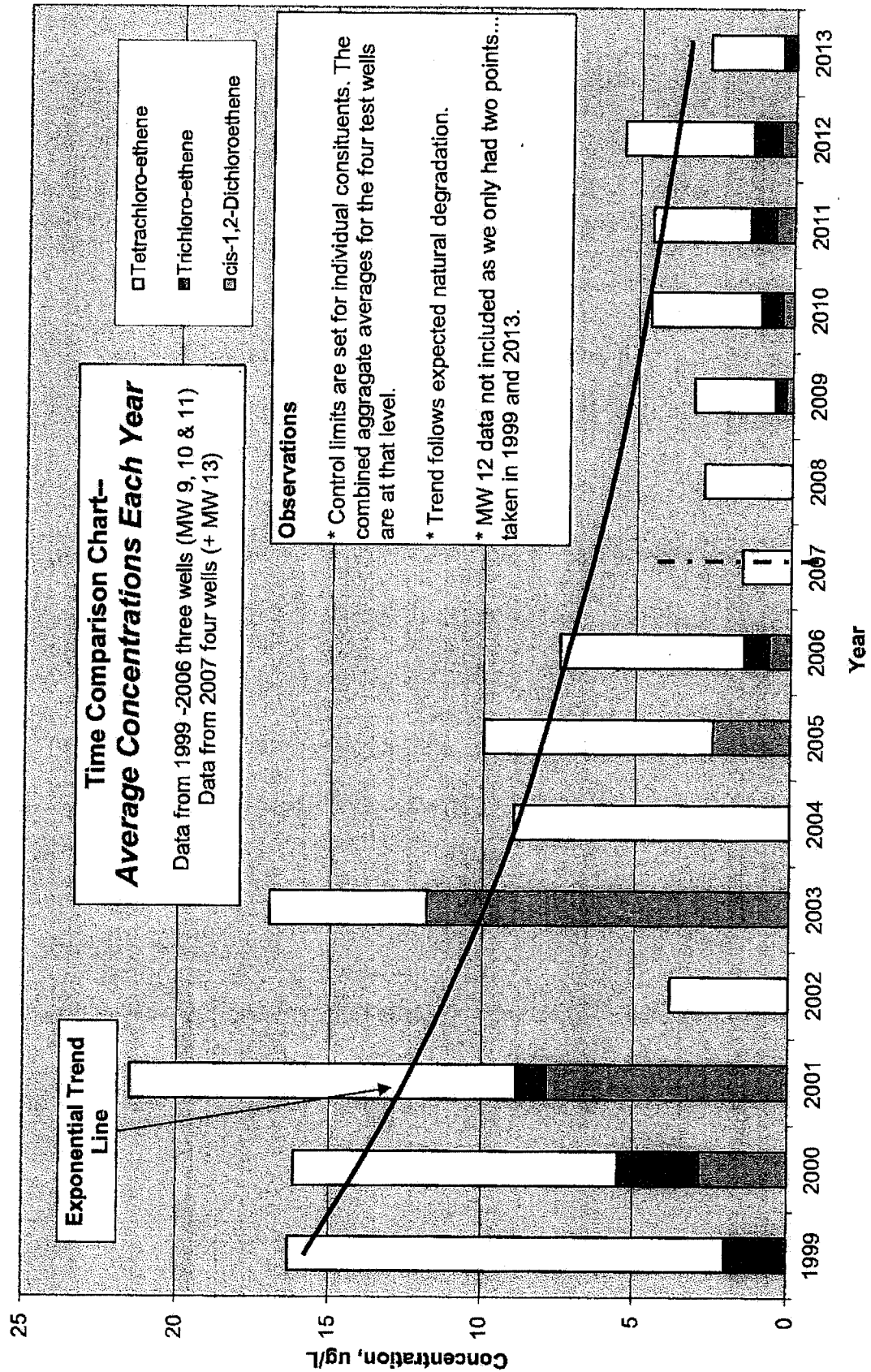
Chart A shows the composite average. This is the best indication that the average groundwater is below MCL for each individual constituent. More convincingly, the sum of all VOCs for the primary area of interest is also less than 5 ug/l.

Charts B - E documents results from individual wells 9, 10, 11 & 13.

## 7.0 Proposed Recommendations

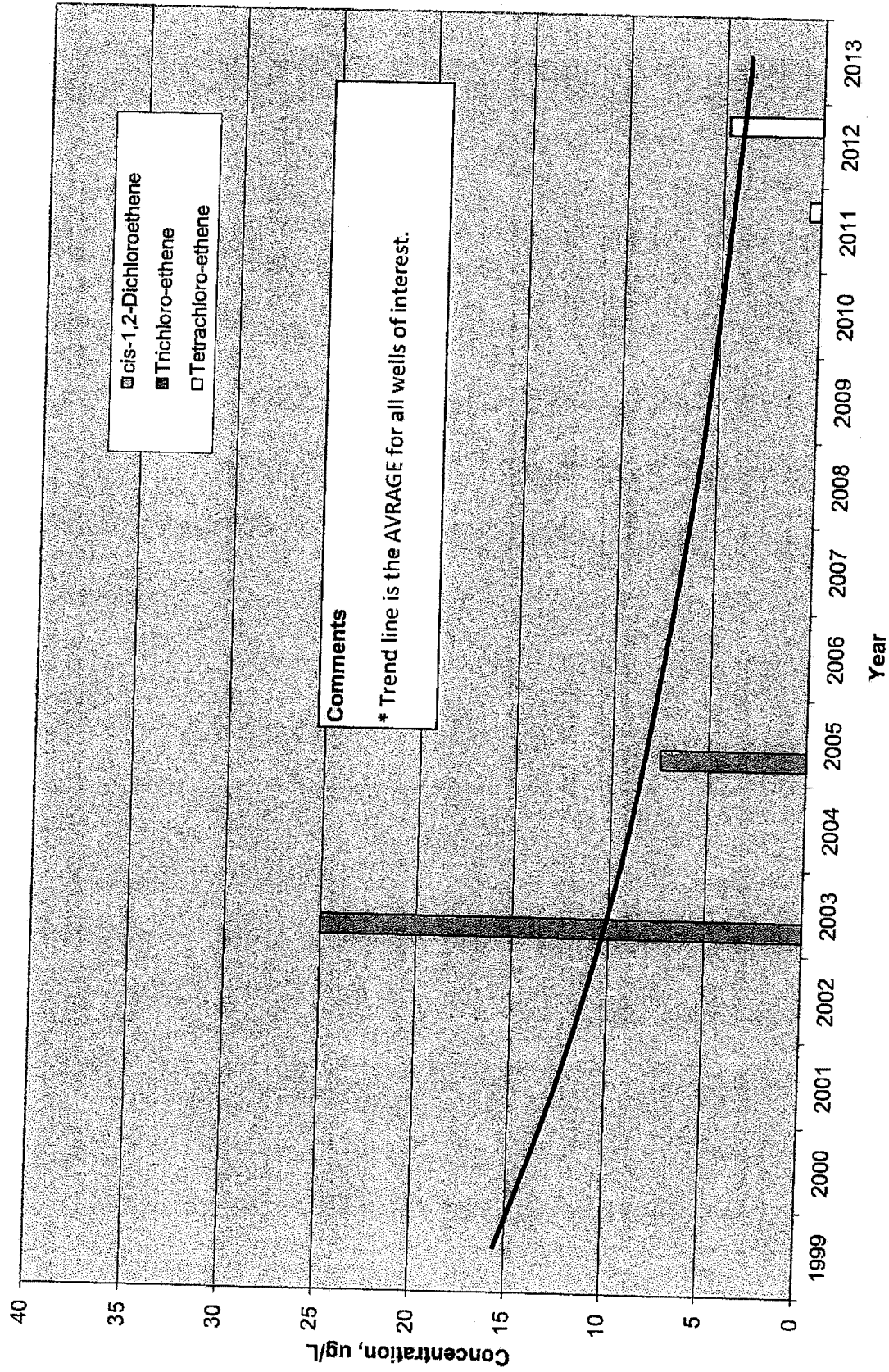
1. Sampling frequency and the overall need for continued sampling is under DHEC review. Based on DHEC's directive the frequency will be modified, remain the same, or the MNA will be considered complete.
2. DHEC should provide guidance as to the disposition of Development water held in drums.
3. **If sampling is required to continue at some frequency:**
  - a. Review which wells add valuable information. Determine if any can be decommissioned. Wells identified as superfluous or problematic can either be abandoned and filled, or decommissioned and remain capable of sampling if future needs change. All background wells are BDL for VOCs.
  - b. These Background Wells are either superfluous, problematic, or both
    - i. MW 3 is on the perimeter but due to the direction of groundwater flow provides no valuable information given the quality of MW 1 and MW 2.
    - ii. MW 4 is not on the site's perimeter and had excessive surface water infiltration. The well had high surface water infiltration this year.
    - iii. MW 7 is not on the site's perimeter and has excessive sedimentation indicating possible failure of the screen.
  - c. MW 10 is a well in the area of interest, but it is dry and should be abandoned and filled. It neither Develops nor yields Samples.
  - d. Any well approved for decommissioning should be identified to be either abandoned and filled per DHEC/EPA guidelines or prepared for decommissioning and remain in ready-state for possible future sampling.
  - e. All active or possible future sampling wells should have their top gaskets and cap seals checked. Improper seal should be replaced.
  - f. Wells should be marked with weatherproof signs to aid identification assuming the frequency of sampling will change and more time will pass between samples.
  - g. Well Development should be a separate event from Sampling as it was done successfully this year. Sampling should follow within two weeks.
  - h. Developing and Sampling should be scheduled between mid-March and mid-May.
  - i. The Groundwater Sampling and Analysis Plan should be updated and serve as a guide based on the newly defined frequency.
4. **If sampling is no longer required and the MNA complete:**
  - a. Determine if any wells should be retained for possible future sampling or should all wells filled and closed per DHEC/EPA guidelines.
  - b. Any well not closed should have gasket and cap inspected and changed if needed.
  - c. Any well not closed should be identified by a sign.

# Solvent Derivatives Near the Area of Interest 1999 to Present



6 A

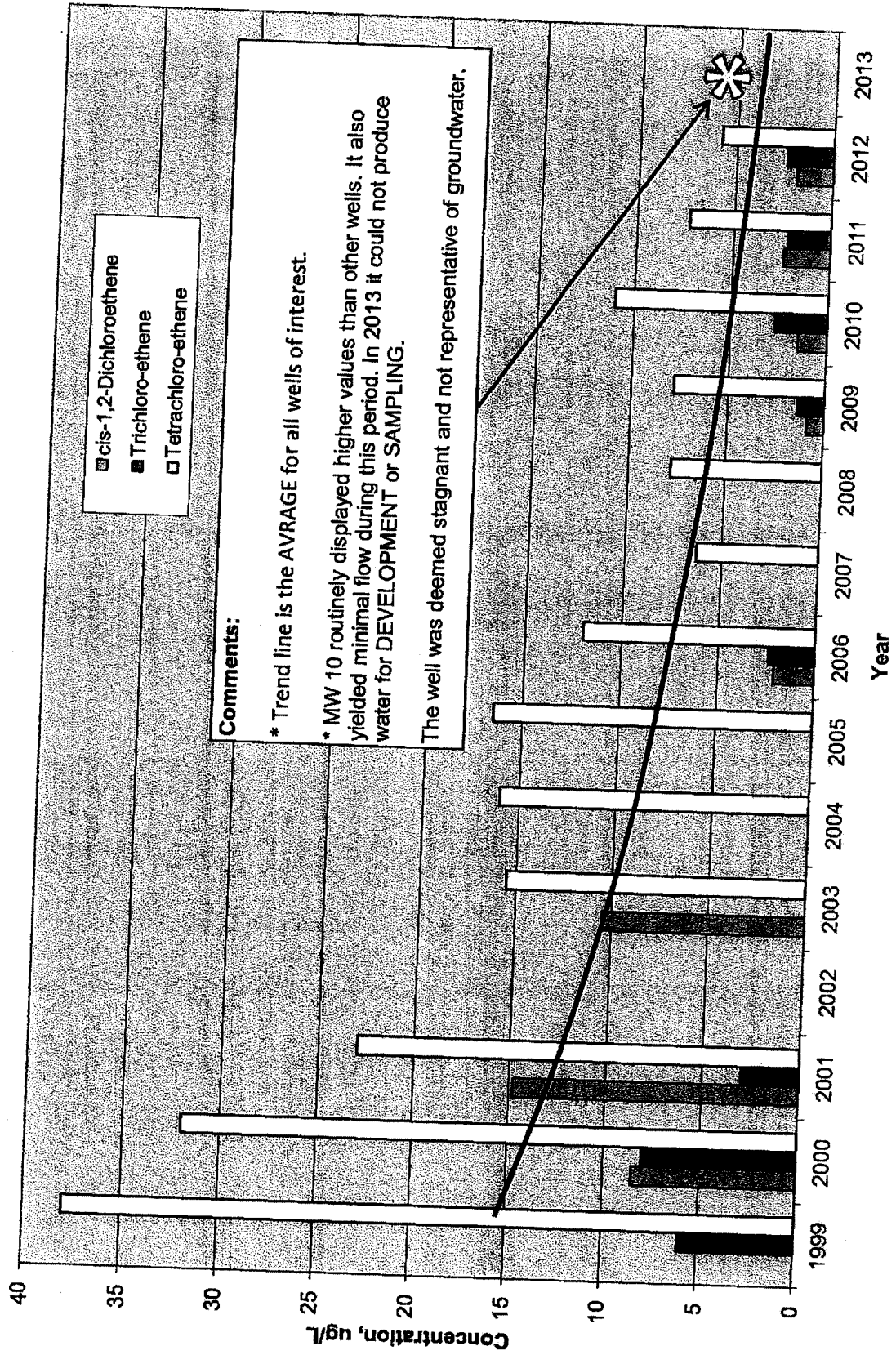
# Monitoring Well 9



6 B

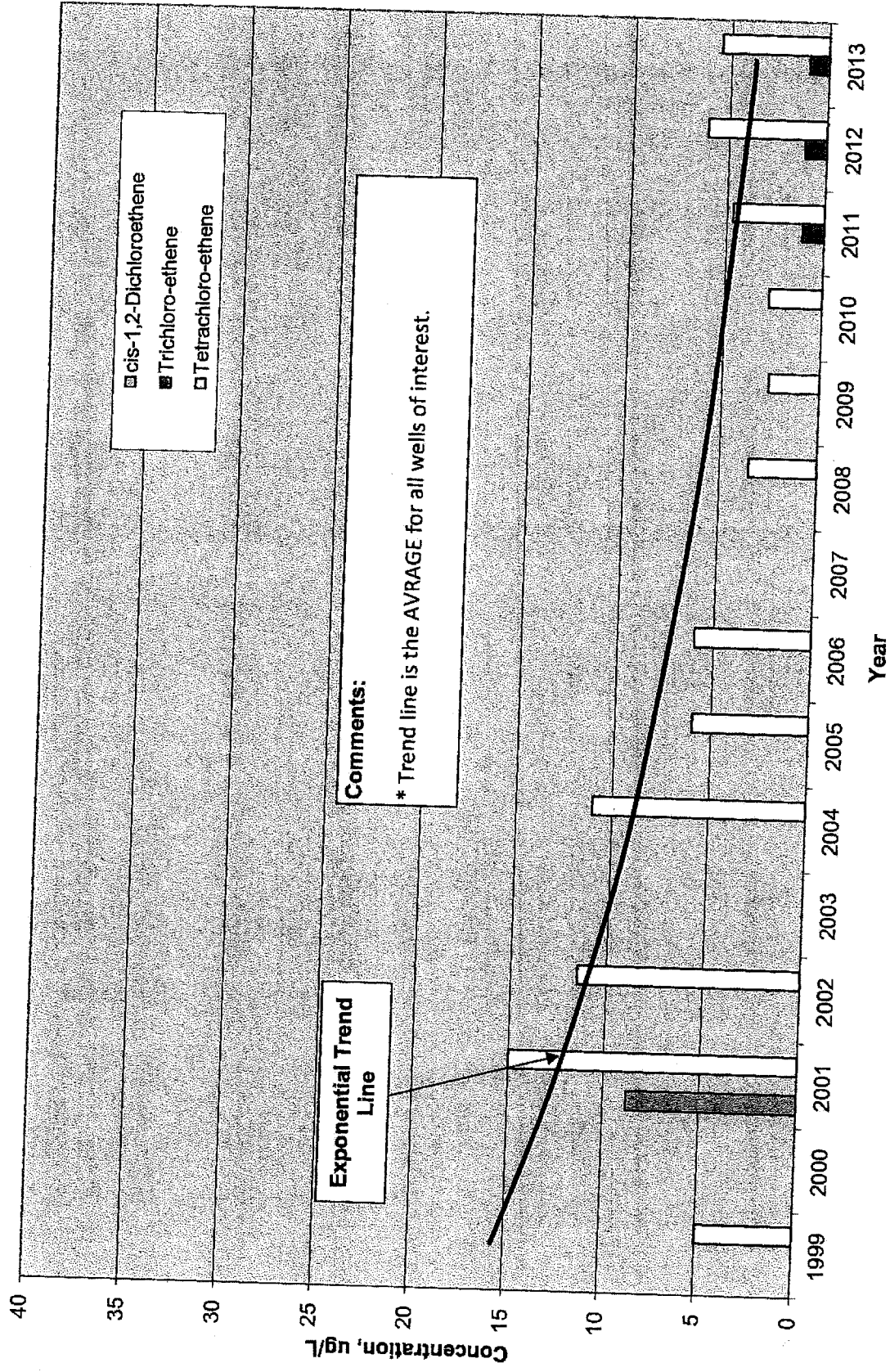


# Monitoring Well 10 Solvents



60

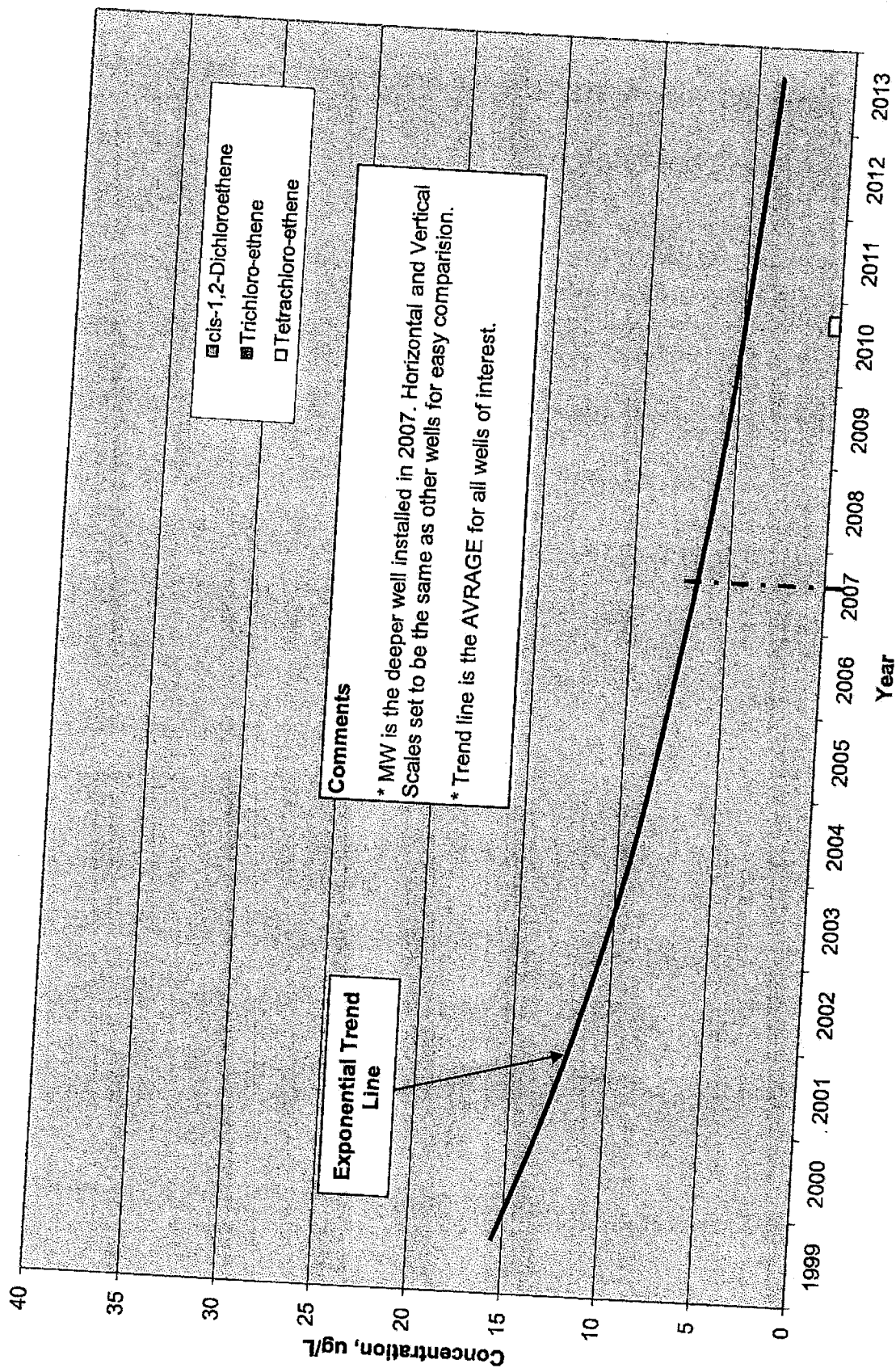
# Monitoring Well 11



60



# Monitoring Well 13



COE

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June 20, 2013

Mr. Greg Slominski, P.E.  
BGF Industries, Inc.  
410 Amherst Ave  
Altavista, VA 24517-1513

RE: BGF Industries  
Groundwater Sampling Results and Schedule  
File #401176  
Chesterfield County

Dear Mr. Slominski,

The Department has received and reviewed the Groundwater Sampling 2013 Results Report. The results indicate the site qualifies for a five-year sampling schedule. The next sampling round should be scheduled for the spring of 2018. Abandonment of MW-4 and MW-10 is approved. The next round of sampling should occur using the low-flow sampling methods approved for the 2013 sample collection. Thank you for your cooperation in this matter. Should you have any questions, please contact me at (803) 898-0816.

Sincerely,

Judy Canova  
State Remediation Section  
Bureau of Land and Waste Management

cc: File 401176

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**Receptor Survey  
BGF Industries  
90 Huger Street  
Cheraw, South Carolina 29520  
Release Project # 01776  
Chesterfield County**

Prepared For:

Mr. Tom Knight, Manager  
Groundwater Quality Section  
Water Monitoring, Assessment & Protection Division  
DHEC  
2600 Bull Street  
Columbia, South Carolina 29201

Submitted By:

Remonia Davis  
BGF, Industries  
401 Amherst Avenue  
Altavista, Virginia 24517  
(804) 369-4751  
November 27, 1998

**RECEIVED**  
NOV 30 1998  
Water Monitoring, Assessment &  
Protection Division



## **Table of Contents**

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Streets in 0.25 Mile Radius of Plant.....	4
Assessment of Water Supply Wells .....	5
Assessment of Basements .....	5

### **Appendices**

- Appendix A - Topographic Map
- Appendix B - Home Locations
- Appendix C - Water Lines
- Appendix D - Sewer Lines
- Appendix E - Groundwater Level Map

## **Introduction**

In a letter of November 5, 1998, BGF Industries was requested by Mr. Tom Knight of the Department of Groundwater Quality of DHEC to conduct a receptor survey within a quarter mile radius of the BGF facility located at 90 Huger Street, Cheraw, South Carolina.

This survey is to assess the indicated area around the facility especially for water supply wells, basements and parks to include drinking water intakes. The survey is also to include a topographic map of Cheraw (Appendix A).

This survey will also include maps of the homes, water lines and sewer lines located in the 0.25 mile radius of the BGF facility (Appendices B, C and D).

As per this letter, the survey is to be submitted to Mr. Knight by December 1, 1998.

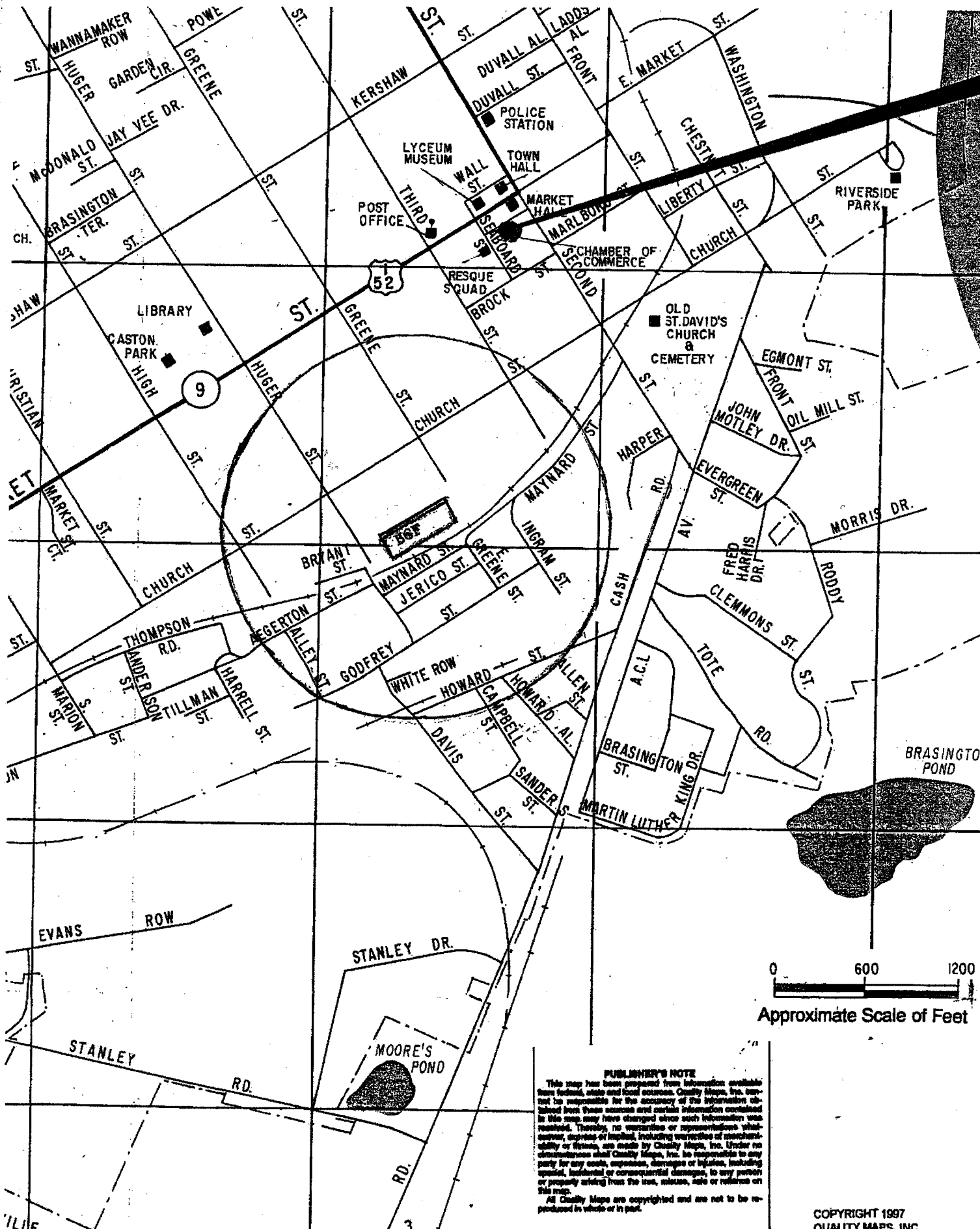
## **Site Description and Overview**

The site is located at 90 Huger Street in Cheraw, Chesterfield County, South Carolina. This site is occupied by BGF's woven carbon fiber and scrim manufacturing facilities. In addition, the site is bordered by residential properties, the Seaboard Airline Railroad tracks and wooded undeveloped land. There are no streams or ponds located within the 0.25 mile radius of the facility. Lastly there are no parks located within this area.

Approximately one hundred forty six homes, one multi-family dwellings and one multi-family complex (comprising several dwellings) are represented in the 0.25 mile radius of the facility. The number of vacant homes included in the count is fifteen. (See Appendix B for Home Locations).

There are currently no state groundwater monitoring wells located Chesterfield County to indicate the groundwater levels in Cheraw. The nearest state wells are located in Kershaw and Marlboro Counties ( Appendix E).

# 0.25 Mile Radius of BGF, Industries



**PUBLISHER'S NOTE**  
This map has been prepared from information available from federal, state and local sources. Quality Maps, Inc. cannot be responsible for the accuracy of the information obtained from these sources and certain information contained in this map may have changed since such information was received. Therefore, no warranties or representations, whether express or implied, including warranties of merchantability or fitness, are made by Quality Maps, Inc. Under no circumstances shall Quality Maps, Inc. be responsible to any party for any costs, expenses, damages or injuries, including special, incidental or consequential damages, to any person or property arising from the use, misuse, sale or reliance on this map.  
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**Streets in 0.25 Mile Radius of Plant**

Aegerton Street  
Bryant Street  
Campbell Drive  
Chruch Street  
Davis Street  
East Green Street  
Godfrey Stret  
Green Street  
High Street  
Howard Alley  
Howard Street  
Huger Street  
Jerico Street  
Ingram Street  
Maynard Street  
Raley Street (Indicated as Alley St. on map)  
Third Street  
White Row



### **Assessment of Water Supply Wells**

According to Mr. Ted Morris of the Cheraw Water department, all homes located in the 0.25 mile radius of the BGF facility are on public drinking water. In addition, he is not aware of any remaining water supply wells. A visual survey of the area revealed no apparent supply wells in the residential areas indicated on the prior streets noted in the 0.25 mile radius of the facility.

### **Assessment of Basements**

A visual survey of the homes on the streets noted in the 0.25 mile radius of the facility indicated no basements. Only crawlspaces were present on the homes including multi-family dwellings.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 4 Science and Ecosystem Support Division  
980 College Station Road, Athens, Georgia 30605-2700

D.A.R.T. Id: 17-0517

Project: 17-0517, BGF INDUSTRIES - Reported by Terri White

September 18, 2017

4SESD-ASB

**MEMORANDUM**

**SUBJECT:** FINAL Analytical Report  
Project: 17-0517, BGF INDUSTRIES  
Superfund Remedial

**FROM:** Terri White  
ICS Analyst

**THRU:** Floyd Wellborn, Chief  
ASB Inorganic Chemistry Section

**TO:** Jeffery Crowley

Attached are the final results for the analytical groups listed below. These analyses were performed in accordance with the Analytical Support Branch's (ASB) Laboratory Operations and Quality Assurance Manual (ASB LOQAM) found at [www.epa.gov/region4/sesd/asbsop](http://www.epa.gov/region4/sesd/asbsop). Any unique project data quality objectives specified in writing by the data requestor have also been incorporated into the data unless otherwise noted in the Report Narrative. Chemistry data have been verified based on the ASB LOQAM specifications and have been qualified by this laboratory if the applicable quality control criteria were not met. Verification is defined in Section 5.2 of the ASB LOQAM. For a listing of specific data qualifiers and explanations, please refer to the Data Qualifier Definitions included in this report. The reported results are accurate within the limits of the method(s) and are representative only of the samples as received by the laboratory.

Analyses Included in this report:	Method Used:	Accreditations:
<b>Physical Properties (PHYSP)</b>		
Physical Properties	EPA 200.2 (Soil)	ISO
<b>Total Metals (TMTL)</b>		
Total Metals	EPA 200.8 (Soil)	ISO
Total Metals	EPA 6010 (Soil)	ISO



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

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D.A.R.T. Id: 17-0517

Project: 17-0517, BGF INDUSTRIES - Reported by Terri White

**Report Narrative for Project: 17-0517q Analysis: TMTL**

09/18/17 TW Total mercury results reported by Method 200.8 may not include the entirety of the organic mercury fraction.

---

**Sample Disposal Policy**

Due to limited space for long term sample storage, ASB's policy is to dispose of samples on a periodic schedule. Air samples collected in summa canisters will be disposed of 30 days following the issuance of this report. All other sample media including original samples, sample extracts and or digestates will be disposed of, in accordance with applicable regulations, 60 days from the date of this report.

This sample disposal policy does not apply to criminal samples which are held until the laboratory is notified by the criminal investigators that case development and litigation are complete.

These samples may be held in the laboratory's custody for a longer period of time. If samples require storage beyond the 60-day period, please contact the Sample Control Coordinator by e-mail at [R4SampleCustody@epa.gov](mailto:R4SampleCustody@epa.gov).

cc: Nardina Turner



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 4 Science and Ecosystem Support Division  
980 College Station Road, Athens, Georgia 30605-2700

D.A.R.T. Id: 17-0517

Project: 17-0517, BGF INDUSTRIES - Reported by Terri White

**SAMPLES INCLUDED IN THIS REPORT**

**Project: 17-0517, BGF INDUSTRIES**

Sample ID	Laboratory ID	Matrix	Date Collected	Date Received
BGF-001-SF	E173402-01	Surface Soil	8/23/17 14:40	8/24/17 10:22
BGF-002-SF	E173402-02	Surface Soil	8/23/17 11:25	8/24/17 10:22
BGF-003-SF	E173402-03	Surface Soil	8/23/17 11:40	8/24/17 10:22
BGF-004-SF	E173402-04	Surface Soil	8/23/17 11:55	8/24/17 10:22
BGF-005-SF	E173402-05	Surface Soil	8/23/17 12:08	8/24/17 10:22
BGF-006-SD	E173402-06	Sediment	8/23/17 14:30	8/24/17 10:22
BGF-007-SD	E173402-07	Sediment	8/23/17 14:35	8/24/17 10:22
BGF-008-SD	E173402-08	Sediment	8/23/17 13:50	8/24/17 10:22
BGF-009-SD	E173402-09	Sediment	8/23/17 13:37	8/24/17 10:22
BGF-010-SD	E173402-10	Sediment	8/23/17 13:25	8/24/17 10:22
BGF-011-SD	E173402-11	Sediment	8/23/17 12:55	8/24/17 10:22



## UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 4 Science and Ecosystem Support Division  
980 College Station Road, Athens, Georgia 30605-2700

D.A.R.T. Id: 17-0517

Project: 17-0517, BGF INDUSTRIES - Reported by Terri White

### DATA QUALIFIER DEFINITIONS

- U The analyte was not detected at or above the reporting limit.
- J The identification of the analyte is acceptable; the reported value is an estimate.
- OM-1 Matrix Spike Recovery less than method control limits
- OM-2 Matrix Spike Recovery greater than method control limits

### ACRONYMS AND ABBREVIATIONS

CAS Chemical Abstracts Service

Note: Analytes with no known CAS identifiers have been assigned codes beginning with "E", the EPA ID as assigned by the EPA Substance Registry System ([www.epa.gov/srs](http://www.epa.gov/srs)), or beginning with "R4-", a unique identifier assigned by the EPA Region 4 laboratory.

MDL Method Detection Limit - The minimum concentration of a substance (an analyte) that can be measured and reported with a 99% confidence that the analyte concentration is greater than zero.

MRL Minimum Reporting Limit - Analyte concentration that corresponds to the lowest demonstrated level of acceptable quantitation. The MRL is sample-specific and accounts for preparation weights and volumes, dilutions, and moisture content of soil/sediments.

TIC Tentatively Identified Compound - An analyte identified based on a match with the instrument software's mass spectral library. A calibration standard has not been analyzed to confirm the compound's identification or the estimated concentration reported.

#### ACCREDITATIONS:

ISO ASB is accredited by ISO/IEC 17025, including an amplification for forensic accreditation through ANSI-ASQ National Accreditation Board.

Refer to the certificate and scope of accreditation AT-1644 at:  
<http://www.epa.gov/aboutepa/about-region-4s-science-and-ecosystem-support-division-sesd>

NR The EPA Region 4 Laboratory has not requested accreditation for this test.



# UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 4 Science and Ecosystem Support Division  
980 College Station Road, Athens, Georgia 30605-2700

D.A.R.T. Id: 17-0517

Project: 17-0517, BGF INDUSTRIES - Reported by Terri White

## Total Metals

Project: 17-0517, BGF INDUSTRIES

Sample ID: BGF-001-SF

Lab ID: E173402-01

Station ID: BGF001

Matrix: Surface Soil

Date Collected: 8/23/17 14:40

CAS Number	Element	Concentration	Unit	mg/kg dry	9/05/17 15:40	9/07/17 18:07	EPA Method
7440-36-0	Antimony	0.58 J, QM-1	mg/kg dry	0.20	9/05/17 15:40	9/07/17 18:07	EPA 200.8
7440-38-2	Arsenic	1.9	mg/kg dry	0.20	9/05/17 15:40	9/07/17 18:07	EPA 200.8
7440-39-3	Barium	120	mg/kg dry	0.50	9/05/17 15:36	9/08/17 12:50	EPA 6010
7440-43-9	Cadmium	0.29	mg/kg dry	0.10	9/05/17 15:40	9/07/17 18:07	EPA 200.8
7440-78-2	Cobalt	0.10 J, QM-1	mg/kg dry	0.25	9/05/17 15:36	9/08/17 12:50	EPA 6010
7440-47-3	Chromium	11	mg/kg dry	0.50	9/05/17 15:36	9/08/17 12:50	EPA 6010
7440-45-4	Cobalt	2.0	mg/kg dry	0.50	9/05/17 15:36	9/08/17 12:50	EPA 6010
7440-50-8	Copper	13	mg/kg dry	1.0	9/05/17 15:36	9/08/17 12:50	EPA 6010
7439-92-1	Lead	61	mg/kg dry	1.0	9/05/17 15:40	9/07/17 18:12	EPA 200.8
7439-96-5	Manganese	290	mg/kg dry	0.50	9/05/17 15:36	9/08/17 12:50	EPA 6010
7439-98-7	Molybdenum	1.0 U, J, QM-1	mg/kg dry	1.0	9/05/17 15:36	9/08/17 12:50	EPA 6010
7440-02-0	Nickel	2.2	mg/kg dry	1.0	9/05/17 15:36	9/08/17 12:50	EPA 6010
7440-09-7	Potassium	310	mg/kg dry	100	9/05/17 15:36	9/08/17 12:50	EPA 6010
7782-49-2	Selenium	0.10 U	mg/kg dry	0.40	9/05/17 15:36	9/08/17 12:50	EPA 6010
7440-22-4	Silver	0.50 U	mg/kg dry	0.50	9/05/17 15:36	9/08/17 12:50	EPA 6010
7440-23-5	Sodium	100 U	mg/kg dry	100	9/05/17 15:36	9/08/17 12:50	EPA 6010
7440-24-6	Strontium	20	mg/kg dry	0.50	9/05/17 15:36	9/08/17 12:50	EPA 6010
7440-28-0	Tellurium	0.20 U	mg/kg dry	0.20	9/05/17 15:36	9/08/17 12:50	EPA 6010
7440-31-5	Tin	1.5 U	mg/kg dry	1.5	9/05/17 15:36	9/08/17 12:50	EPA 6010
7440-32-6	Thallium	0.10 J, QM-1	mg/kg dry	0.50	9/05/17 15:36	9/08/17 12:50	EPA 6010
7440-62-2	Vanadium	13	mg/kg dry	0.50	9/05/17 15:36	9/08/17 12:50	EPA 6010
7440-65-5	Vanadium	13	mg/kg dry	0.50	9/05/17 15:36	9/08/17 12:50	EPA 6010
7440-66-6	Zinc	120	mg/kg dry	1.0	9/05/17 15:36	9/08/17 12:50	EPA 6010



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 4 Science and Ecosystem Support Division  
980 College Station Road, Athens, Georgia 30605-2700

D.A.R.T. Id: 17-0517

Project: 17-0517, BGF INDUSTRIES - Reported by Terri White

## Physical Properties

**Project: 17-0517, BGF INDUSTRIES**

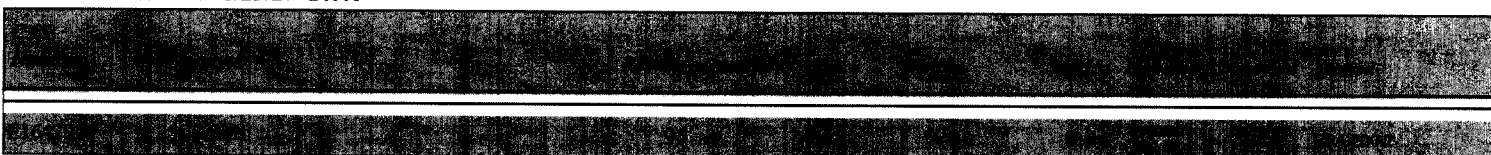
**Sample ID: BGF-001-SF**

**Lab ID: E173402-01**

**Station ID: BGF001**

**Matrix: Surface Soil**

**Date Collected: 8/23/17 14:40**





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 4 Science and Ecosystem Support Division  
980 College Station Road, Athens, Georgia 30605-2700

D.A.R.T. Id: 17-0517

Project: 17-0517, BGF INDUSTRIES - Reported by Terri White

Total Metals

Project: 17-0517, BGF INDUSTRIES

Sample ID: BGF-002-SF

Lab ID: E173402-02

Station ID: BGF002

Matrix: Surface Soil

Date Collected: 8/23/17 11:25

Sample ID	Element	Concentration	Units	Method	9/05/17 15:40	9/07/17 18:25	EPA Method
7440-36-0	Antimony	0.20	U	mg/kg dry	0.20		EPA 200.8
7440-38-2	Arsenic	0.12		mg/kg dry	0.20		EPA 200.8
7440-39-3	Barium	11		mg/kg dry	0.50		EPA 6010
7440-41-7	Beryllium	0.30	U	mg/kg dry	0.50		EPA 6010
7440-43-9	Cadmium	0.10	U	mg/kg dry	0.10		EPA 200.8
7440-46-2	Cobalt	78		mg/kg dry	0.20		EPA 6010
7440-47-3	Chromium	2.1		mg/kg dry	0.50		EPA 6010
7440-48-4	Copper	0.30	U	mg/kg dry	0.50		EPA 6010
7440-50-8	Copper	110		mg/kg dry	1.0		EPA 6010
7439-89-6	Iron	300		mg/kg dry	10		EPA 6010
7439-92-1	Lead	2.9		mg/kg dry	0.20		EPA 200.8
7439-93-4	Manganese	89		mg/kg dry	0.25		EPA 6010
7439-96-5	Manganese	9.0		mg/kg dry	0.50		EPA 6010
7439-97-8	Mercury	0.080	U	mg/kg dry	0.080		EPA 200.8
7439-98-7	Molybdenum	1.0	U	mg/kg dry	1.0		EPA 6010
7440-02-0	Nickel	1.0	U	mg/kg dry	1.0		EPA 6010
7440-09-7	Potassium	100	U	mg/kg dry	100		EPA 6010
7439-99-2	Selenium	0.40	U	mg/kg dry	0.40		EPA 6010
7440-22-4	Silver	0.50	U	mg/kg dry	0.50		EPA 6010
7440-23-5	Selenium	100	U	mg/kg dry	1.0		EPA 6010
7440-24-6	Strontium	0.72		mg/kg dry	0.50		EPA 6010
7440-28-0	Thallium	0.20	U	mg/kg dry	0.20		EPA 200.8
7440-31-5	Tin	1.5	U	mg/kg dry	1.5		EPA 6010
7440-32-6	Titanium	15		mg/kg dry	0.30		EPA 6010
7440-62-2	Vanadium	4.2		mg/kg dry	0.50		EPA 6010
7440-63-5	Zinc	0.30		mg/kg dry	0.30		EPA 6010
7440-66-6	Zinc	19		mg/kg dry	1.0		EPA 6010





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 4 Science and Ecosystem Support Division  
980 College Station Road, Athens, Georgia 30605-2700

D.A.R.T. Id: 17-0517

Project: 17-0517, BGF INDUSTRIES - Reported by Terri White

## Physical Properties

Project: 17-0517, BGF INDUSTRIES

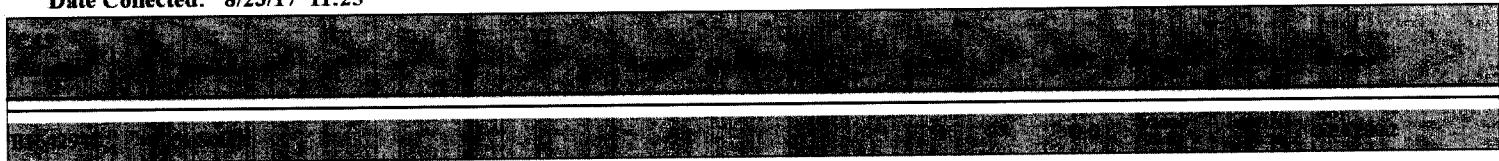
Sample ID: BGF-002-SF

Lab ID: E173402-02

Station ID: BGF002

Matrix: Surface Soil

Date Collected: 8/23/17 11:25





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 4 Science and Ecosystem Support Division

980 College Station Road, Athens, Georgia 30605-2700

D.A.R.T. Id: 17-0517

Project: 17-0517, BGF INDUSTRIES - Reported by Terri White

Total Metals

Project: 17-0517, BGF INDUSTRIES

Sample ID: BGF-003-SF

Lab ID: E173402-03

Station ID: BGF003

Matrix: Surface Soil

Date Collected: 8/23/17 11:40

Sample ID	Element	Concentration	Units	Method	9/05/17 15:40	9/07/17 18:38	EPA Method
7440-36-0	Antimony	1.0	mg/kg dry	0.20	9/05/17 15:40	9/07/17 18:38	EPA 200.8
7440-38-2	Asbestos	1.0	mg/kg dry	0.20	9/05/17 15:40	9/07/17 18:38	EPA 200.8
7440-39-3	Barium	40	mg/kg dry	4.9	9/05/17 15:36	9/08/17 13:01	EPA 6010
7440-41-7	Beryllium	1.0	mg/kg dry	0.20	9/05/17 15:40	9/07/17 18:38	EPA 200.8
7440-43-9	Cadmium	5.7	mg/kg dry	0.099	9/05/17 15:40	9/07/17 18:38	EPA 200.8
7440-70-2	Chlorine	200	mg/kg dry	2.0	9/05/17 15:36	9/08/17 13:01	EPA 6010
7440-47-3	Chromium	56	mg/kg dry	4.9	9/05/17 15:36	9/08/17 13:01	EPA 6010
7440-48-4	Cobalt	5.0	mg/kg dry	4.9	9/05/17 15:36	9/08/17 13:01	EPA 6010
7440-50-8	Copper	2500	mg/kg dry	9.9	9/05/17 15:36	9/08/17 13:01	EPA 6010
7439-92-1	Lead	110	mg/kg dry	0.99	9/05/17 15:40	9/07/17 18:42	EPA 200.8
7439-95-4	Magnesium	600	mg/kg dry	2.0	9/05/17 15:36	9/08/17 13:01	EPA 6010
7439-96-5	Manganese	380	mg/kg dry	4.9	9/05/17 15:36	9/08/17 13:01	EPA 6010
7439-98-7	Molybdenum	9.9 U	mg/kg dry	9.9	9/05/17 15:36	9/08/17 13:01	EPA 6010
7440-09-7	Potassium	990 U	mg/kg dry	990	9/05/17 15:36	9/08/17 13:01	EPA 6010
7440-22-4	Silver	13	mg/kg dry	4.9	9/05/17 15:36	9/08/17 13:01	EPA 6010
7440-23-5	Selenium	9.0 U	mg/kg dry	9.0	9/05/17 15:36	9/08/17 13:01	EPA 6010
7440-24-6	Strontium	31	mg/kg dry	4.9	9/05/17 15:36	9/08/17 13:01	EPA 6010
7440-28-0	Thallium	0.20 U	mg/kg dry	0.20	9/05/17 15:36	9/08/17 13:01	EPA 200.8
7440-31-5	Tin	15	mg/kg dry	15	9/05/17 15:36	9/08/17 13:01	EPA 6010
7440-32-6	Titanium	500	mg/kg dry	4.9	9/05/17 15:36	9/08/17 13:01	EPA 6010
7440-62-2	Vanadium	20	mg/kg dry	4.9	9/05/17 15:36	9/08/17 13:01	EPA 6010
7440-65-5	Yttrium	3.0	mg/kg dry	3.0	9/05/17 15:36	9/08/17 13:01	EPA 6010
7440-66-6	Zinc	820	mg/kg dry	9.9	9/05/17 15:36	9/08/17 13:01	EPA 6010



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 4 Science and Ecosystem Support Division  
980 College Station Road, Athens, Georgia 30605-2700

D.A.R.T. Id: 17-0517

Project: 17-0517, BGF INDUSTRIES - Reported by Terri White

## Physical Properties

Project: 17-0517, BGF INDUSTRIES

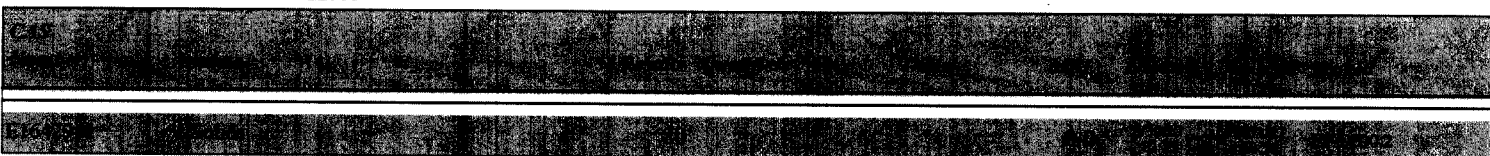
Sample ID: BGF-003-SF

Lab ID: E173402-03

Station ID: BGF003

Matrix: Surface Soil

Date Collected: 8/23/17 11:40





# UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 4 Science and Ecosystem Support Division  
980 College Station Road, Athens, Georgia 30605-2700

D.A.R.T. Id: 17-0517

Project: 17-0517, BGF INDUSTRIES - Reported by Terri White

## Total Metals

Project: 17-0517, BGF INDUSTRIES

Sample ID: BGF-004-SF

Lab ID: E173402-04

Station ID: BGF004

Matrix: Surface Soil

Date Collected: 8/23/17 11:55

CAS Number	Element	Concentration	Unit	Method	Lab	Date	EPA Method
7440-36-0	Antimony	0.20 U	mg/kg dry	0.20	9/05/17 15:40	9/07/17 18:47	EPA 200.8
7440-39-3	Barium	37	mg/kg dry	0.50	9/05/17 15:36	9/08/17 13:07	EPA 6010
7440-43-9	Cadmium	0.32	mg/kg dry	0.10	9/05/17 15:40	9/07/17 18:47	EPA 200.8
7440-47-3	Chromium	5.3	mg/kg dry	0.50	9/05/17 15:36	9/08/17 13:07	EPA 6010
7440-50-8	Copper	18	mg/kg dry	1.0	9/05/17 15:36	9/08/17 13:07	EPA 6010
7439-92-1	Lead	67	mg/kg dry	1.0	9/05/17 15:40	9/07/17 18:51	EPA 200.8
7439-96-5	Manganese	110	mg/kg dry	0.50	9/05/17 15:36	9/08/17 13:07	EPA 6010
7439-98-7	Molybdenum	1.0 U	mg/kg dry	1.0	9/05/17 15:36	9/08/17 13:07	EPA 6010
7440-09-7	Potassium	140	mg/kg dry	100	9/05/17 15:36	9/08/17 13:07	EPA 6010
7440-22-4	Silver	0.50 U	mg/kg dry	0.50	9/05/17 15:36	9/08/17 13:07	EPA 6010
7440-24-6	Strontium	20	mg/kg dry	0.50	9/05/17 15:36	9/08/17 13:07	EPA 6010
7440-31-5	Tin	1.6	mg/kg dry	1.5	9/05/17 15:36	9/08/17 13:07	EPA 6010
7440-62-2	Vanadium	4.9	mg/kg dry	0.50	9/05/17 15:36	9/08/17 13:07	EPA 6010
7440-66-6	Zinc	73	mg/kg dry	1.0	9/05/17 15:36	9/08/17 13:07	EPA 6010



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

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980 College Station Road, Athens, Georgia 30605-2700

D.A.R.T. Id: 17-0517

Project: 17-0517, BGF INDUSTRIES - Reported by Terri White

## Physical Properties

**Project: 17-0517, BGF INDUSTRIES**

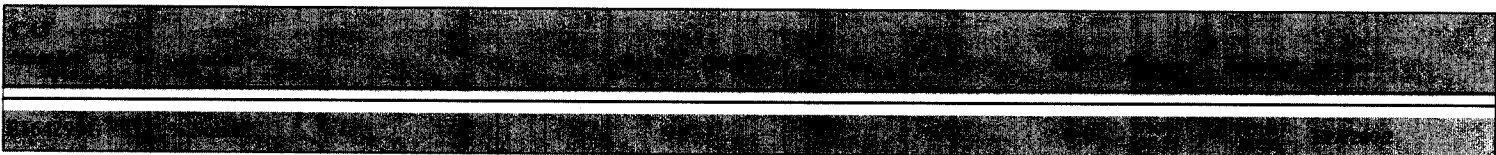
**Sample ID: BGF-004-SF**

**Lab ID: E173402-04**

**Station ID: BGF004**

**Matrix: Surface Soil**

**Date Collected: 8/23/17 11:55**





# UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 4 Science and Ecosystem Support Division  
980 College Station Road, Athens, Georgia 30605-2700

D.A.R.T. Id: 17-0517

Project: 17-0517, BGF INDUSTRIES - Reported by Terri White

## Total Metals

Project: 17-0517, BGF INDUSTRIES

Sample ID: BGF-005-SF

Lab ID: E173402-05

Station ID: BGF005

Matrix: Surface Soil

Date Collected: 8/23/17 12:08

Lab Number	Element	Concentration	Units	mg/kg dry	mg/kg	Date	Time	EPA Method
7440-36-0	Antimony	0.20 U		mg/kg dry	0.20	9/05/17 15:40	9/07/17 18:55	EPA 200.8
7440-39-3	Barium	43		mg/kg dry	0.50	9/05/17 15:36	9/08/17 13:09	EPA 6010
7440-43-9	Cadmium	0.19		mg/kg dry	0.099	9/05/17 15:40	9/07/17 18:55	EPA 200.8
7440-47-3	Chromium	4.5		mg/kg dry	0.50	9/05/17 15:36	9/08/17 13:09	EPA 6010
7440-50-8	Copper	14		mg/kg dry	0.99	9/05/17 15:36	9/08/17 13:09	EPA 6010
7439-92-1	Lead	23		mg/kg dry	0.20	9/05/17 15:40	9/07/17 18:55	EPA 200.8
7439-96-5	Manganese	170		mg/kg dry	0.50	9/05/17 15:36	9/08/17 13:09	EPA 6010
7439-98-7	Molybdenum	0.99 U		mg/kg dry	0.99	9/05/17 15:36	9/08/17 13:09	EPA 6010
7440-09-7	Potassium	190		mg/kg dry	99	9/05/17 15:36	9/08/17 13:09	EPA 6010
7440-22-4	Silver	0.50 U		mg/kg dry	0.50	9/05/17 15:36	9/08/17 13:09	EPA 6010
7440-24-6	Strontium	8.3		mg/kg dry	0.50	9/05/17 15:36	9/08/17 13:09	EPA 6010
7440-31-5	Tin	1.5 U		mg/kg dry	1.5	9/05/17 15:36	9/08/17 13:09	EPA 6010
7440-62-2	Vanadium	6.2		mg/kg dry	0.50	9/05/17 15:36	9/08/17 13:09	EPA 6010
7440-66-6	Zinc	72		mg/kg dry	0.99	9/05/17 15:36	9/08/17 13:09	EPA 6010



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 4 Science and Ecosystem Support Division  
980 College Station Road, Athens, Georgia 30605-2700

D.A.R.T. Id: 17-0517

Project: 17-0517, BGF INDUSTRIES - Reported by Terri White

## Physical Properties

**Project: 17-0517, BGF INDUSTRIES**

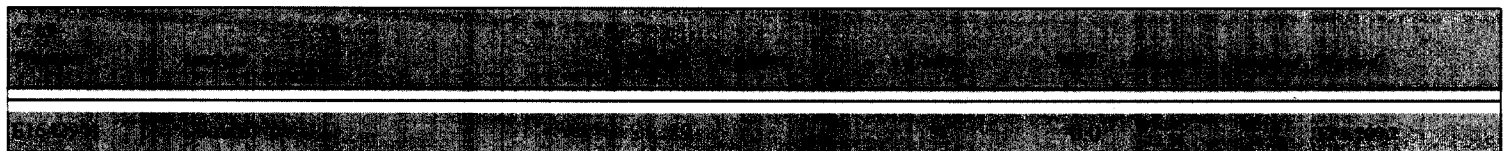
**Sample ID: BGF-005-SF**

**Lab ID: E173402-05**

**Station ID: BGF005**

**Matrix: Surface Soil**

**Date Collected: 8/23/17 12:08**







UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 4 Science and Ecosystem Support Division

980 College Station Road, Athens, Georgia 30605-2700

D.A.R.T. Id: 17-0517

Project: 17-0517, BGF INDUSTRIES - Reported by Terri White

Total Metals

Project: 17-0517, BGF INDUSTRIES

Sample ID: BGF-006-SD

Lab ID: E173402-06

Station ID: BGF006

Matrix: Sediment

Date Collected: 8/23/17 14:30

CAS Number	Element	Concentration	Unit	mg/kg dry	9/05/17 15:40	9/07/17 19:00	EPA 6010	
7440-36-0	Antimony	0.20	U	mg/kg dry	0.20	9/05/17 15:40	9/07/17 19:00	EPA 200.8
7440-38-2	Arsenic	0.20	U	mg/kg dry	0.20	9/05/17 15:40	9/07/17 19:00	EPA 200.8
7440-39-3	Barium	61		mg/kg dry	0.49	9/05/17 15:36	9/08/17 13:25	EPA 6010
7440-43-9	Cadmium	0.098	U	mg/kg dry	0.098	9/05/17 15:40	9/07/17 19:00	EPA 200.8
7440-70-2	Chromium	5.4		mg/kg dry	0.49	9/05/17 15:36	9/08/17 13:25	EPA 6010
7440-48-4	Copper	7.4		mg/kg dry	0.98	9/05/17 15:36	9/08/17 13:25	EPA 6010
7439-92-1	Lead	21		mg/kg dry	0.20	9/05/17 15:40	9/07/17 19:00	EPA 200.8
7439-96-5	Manganese	46		mg/kg dry	0.49	9/05/17 15:36	9/08/17 13:25	EPA 6010
7439-98-7	Molybdenum	0.98	U	mg/kg dry	0.98	9/05/17 15:36	9/08/17 13:25	EPA 6010
7440-09-7	Potassium	130		mg/kg dry	98	9/05/17 15:36	9/08/17 13:25	EPA 6010
7440-22-4	Silver	0.49	U	mg/kg dry	0.49	9/05/17 15:36	9/08/17 13:25	EPA 6010
7440-24-6	Strontium	7.8		mg/kg dry	0.49	9/05/17 15:36	9/08/17 13:25	EPA 6010
7440-31-5	Tin	1.5	U	mg/kg dry	1.5	9/05/17 15:36	9/08/17 13:25	EPA 6010
7440-62-2	Vanadium	7.6		mg/kg dry	0.49	9/05/17 15:36	9/08/17 13:25	EPA 6010
7440-66-6	Zinc	17		mg/kg dry	0.98	9/05/17 15:36	9/08/17 13:25	EPA 6010





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 4 Science and Ecosystem Support Division  
980 College Station Road, Athens, Georgia 30605-2700

D.A.R.T. Id: 17-0517

Project: 17-0517, BGF INDUSTRIES - Reported by Terri White

## Physical Properties

**Project: 17-0517, BGF INDUSTRIES**

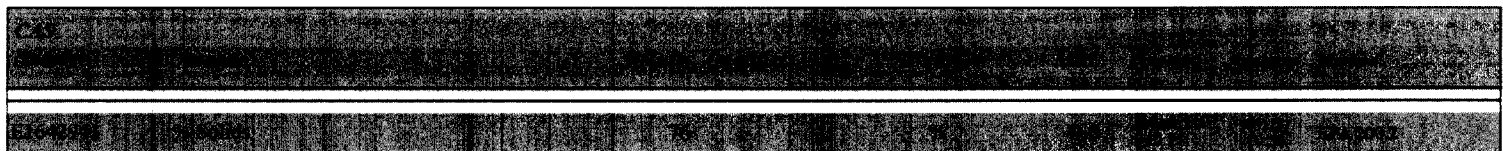
**Sample ID:** BGF-006-SD

**Lab ID:** E173402-06

**Station ID:** BGF006

**Matrix:** Sediment

**Date Collected:** 8/23/17 14:30





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Region 4 Science and Ecosystem Support Division  
980 College Station Road, Athens, Georgia 30605-2700

D.A.R.T. Id: 17-0517

Project: 17-0517, BGF INDUSTRIES - Reported by Terri White

Total Metals

Project: 17-0517, BGF INDUSTRIES

Sample ID: BGF-007-SD

Lab ID: E173402-07

Station ID: BGF007

Matrix: Sediment

Date Collected: 8/23/17 14:35

Lab ID	Element	Concentration	Units	mg/kg dry	mg/kg	Date	Time	EPA Method
7440-36-0	Antimony	0.20	U	mg/kg dry	0.20	9/05/17 15:40	9/07/17 19:04	EPA 200.8
7440-38-1	Asbestos	1.7		mg/kg dry	0.20	9/05/17 15:40	9/07/17 19:04	EPA 200.8
7440-39-3	Barium	18		mg/kg dry	0.50	9/05/17 15:36	9/08/17 13:28	EPA 6010
7440-43-9	Cadmium	0.23		mg/kg dry	0.10	9/05/17 15:40	9/07/17 19:04	EPA 200.8
7440-47-3	Chromium	3.5		mg/kg dry	0.50	9/05/17 15:36	9/08/17 13:28	EPA 6010
7440-48-4	Cobalt	0.50	U	mg/kg dry	0.50	9/05/17 15:36	9/08/17 13:28	EPA 6010
7440-50-8	Copper	54		mg/kg dry	1.0	9/05/17 15:36	9/08/17 13:28	EPA 6010
7439-92-1	Lead	40		mg/kg dry	0.20	9/05/17 15:40	9/07/17 19:04	EPA 200.8
7439-96-5	Manganese	16		mg/kg dry	0.50	9/05/17 15:36	9/08/17 13:28	EPA 6010
7439-97-6	Mercury	0.30		mg/kg dry	0.080	9/05/17 15:40	9/07/17 19:04	EPA 200.8
7439-98-7	Molybdenum	1.0	U	mg/kg dry	1.0	9/05/17 15:36	9/08/17 13:28	EPA 6010
7440-09-7	Potassium	100	U	mg/kg dry	100	9/05/17 15:36	9/08/17 13:28	EPA 6010
7782-81-2	Selenium	0.40	U	mg/kg dry	0.40	9/05/17 15:36	9/08/17 13:28	EPA 200.8
7440-22-4	Silver	0.50	U	mg/kg dry	0.50	9/05/17 15:36	9/08/17 13:28	EPA 6010
7440-23-5	Sodium	100	U	mg/kg dry	100	9/05/17 15:36	9/08/17 13:28	EPA 6010
7440-24-6	Strontium	2.9		mg/kg dry	0.50	9/05/17 15:36	9/08/17 13:28	EPA 6010
7440-28-0	Thallium	0.20	U	mg/kg dry	0.20	9/05/17 15:40	9/07/17 19:04	EPA 200.8
7440-31-5	Tin	1.5	U	mg/kg dry	1.5	9/05/17 15:36	9/08/17 13:28	EPA 6010
7440-33-6	Tungsten	41		mg/kg dry	0.50	9/05/17 15:36	9/08/17 13:28	EPA 6010
7440-62-2	Vanadium	3.3		mg/kg dry	0.50	9/05/17 15:36	9/08/17 13:28	EPA 6010
7440-66-6	Zinc	83		mg/kg dry	1.0	9/05/17 15:36	9/08/17 13:28	EPA 6010



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 4 Science and Ecosystem Support Division  
980 College Station Road, Athens, Georgia 30605-2700

D.A.R.T. Id: 17-0517

Project: 17-0517, BGF INDUSTRIES - Reported by Terri White

## Physical Properties

**Project: 17-0517, BGF INDUSTRIES**

**Sample ID: BGF-007-SD**

**Lab ID: E173402-07**

**Station ID: BGF007**

**Matrix: Sediment**

**Date Collected: 8/23/17 14:35**



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 4 Science and Ecosystem Support Division

980 College Station Road, Athens, Georgia 30605-2700

D.A.R.T. Id: 17-0517

Project: 17-0517, BGF INDUSTRIES - Reported by Terri White

Total Metals

Project: 17-0517, BGF INDUSTRIES

Sample ID: BGF-008-SD

Lab ID: E173402-08

Station ID: BGF008

Matrix: Sediment

Date Collected: 8/23/17 13:50

Sample ID	Element	Concentration	Unit	Method	Date	Time	Standard
7440-36-0	Antimony	0.24	mg/kg dry	0.20	9/05/17	15:40	EPA 200.8
7440-38-2	Barium	20	mg/kg dry	0.50	9/05/17	15:36	EPA 6010
7440-43-9	Cadmium	0.16	mg/kg dry	0.099	9/05/17	15:40	EPA 200.8
7440-47-3	Chromium	2.5	mg/kg dry	0.50	9/05/17	15:36	EPA 6010
7440-50-8	Copper	38	mg/kg dry	0.99	9/05/17	15:36	EPA 6010
7439-92-1	Lead	50	mg/kg dry	0.99	9/05/17	15:40	EPA 200.8
7439-96-5	Manganese	23	mg/kg dry	0.50	9/05/17	15:36	EPA 6010
7439-98-7	Molybdenum	0.99 U	mg/kg dry	0.99	9/05/17	15:36	EPA 6010
7440-09-7	Potassium	99 U	mg/kg dry	99	9/05/17	15:36	EPA 6010
7440-22-4	Silver	0.50 U	mg/kg dry	0.50	9/05/17	15:36	EPA 6010
7440-24-6	Strontium	4.3	mg/kg dry	0.50	9/05/17	15:36	EPA 6010
7440-31-5	Tin	1.5 U	mg/kg dry	1.5	9/05/17	15:36	EPA 6010
7440-62-2	Vanadium	2.6	mg/kg dry	0.50	9/05/17	15:36	EPA 6010
7440-66-6	Zinc	57	mg/kg dry	0.99	9/05/17	15:36	EPA 6010



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 4 Science and Ecosystem Support Division

980 College Station Road, Athens, Georgia 30605-2700

D.A.R.T. Id: 17-0517

Project: 17-0517, BGF INDUSTRIES - Reported by Terri White

## Physical Properties

**Project: 17-0517, BGF INDUSTRIES**

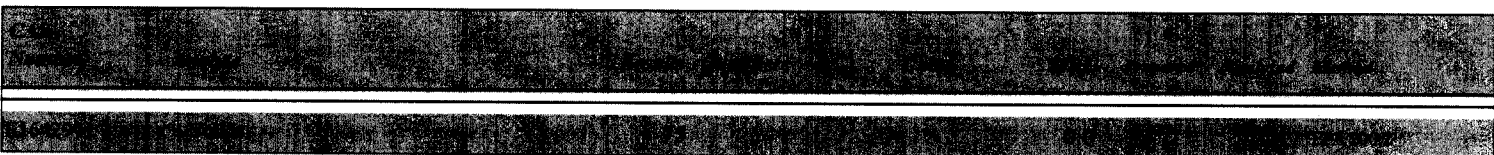
**Sample ID: BGF-008-SD**

**Lab ID: E173402-08**

**Station ID: BGF008**

**Matrix: Sediment**

**Date Collected: 8/23/17 13:50**





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 4 Science and Ecosystem Support Division

980 College Station Road, Athens, Georgia 30605-2700

D.A.R.T. Id: 17-0517

Project: 17-0517, BGF INDUSTRIES - Reported by Terri White

Total Metals

Project: 17-0517, BGF INDUSTRIES

Sample ID: BGF-009-SD

Lab ID: E173402-09

Station ID: BGF009

Matrix: Sediment

Date Collected: 8/23/17 13:37

CAS Number	Element	Concentration	Units	Method	9/05/17 15:40	9/07/17 19:31	EPA Method
7429-90-5	Antimony	0.67	mg/kg dry	0.20	9/05/17 15:40	9/07/17 19:31	EPA 200.8
7440-36-0	Antimony	0.67	mg/kg dry	0.20	9/05/17 15:40	9/07/17 19:31	EPA 200.8
7440-39-3	Barium	74	mg/kg dry	0.50	9/05/17 15:36	9/08/17 13:33	EPA 6010
7440-41-7	Cadmium	0.72	mg/kg dry	0.10	9/05/17 15:40	9/07/17 19:31	EPA 200.8
7440-43-9	Cadmium	0.72	mg/kg dry	0.10	9/05/17 15:40	9/07/17 19:31	EPA 200.8
7440-70-2	Calcium	8.5	mg/kg dry	0.50	9/05/17 15:36	9/08/17 13:33	EPA 6010
7440-47-3	Chromium	8.5	mg/kg dry	0.50	9/05/17 15:36	9/08/17 13:33	EPA 6010
7440-49-4	Copper	65	mg/kg dry	1.0	9/05/17 15:36	9/08/17 13:33	EPA 6010
7439-92-1	Lead	140	mg/kg dry	2.5	9/05/17 15:40	9/07/17 19:35	EPA 200.8
7439-92-1	Lead	140	mg/kg dry	2.5	9/05/17 15:40	9/07/17 19:35	EPA 200.8
7439-96-5	Manganese	61	mg/kg dry	0.50	9/05/17 15:36	9/08/17 13:33	EPA 6010
7439-97-6	Molybdenum	1.0 U	mg/kg dry	1.0	9/05/17 15:36	9/08/17 13:33	EPA 6010
7440-09-7	Potassium	170	mg/kg dry	100	9/05/17 15:36	9/08/17 13:33	EPA 6010
7782-49-2	Silver	0.50 U	mg/kg dry	0.50	9/05/17 15:36	9/08/17 13:33	EPA 6010
7440-22-4	Silver	0.50 U	mg/kg dry	0.50	9/05/17 15:36	9/08/17 13:33	EPA 6010
7440-23-5	Sodium	100 U	mg/kg dry	100	9/05/17 15:36	9/08/17 13:33	EPA 6010
7440-24-6	Strontium	13	mg/kg dry	0.50	9/05/17 15:36	9/08/17 13:33	EPA 6010
7440-28-0	Tin	5.8	mg/kg dry	1.5	9/05/17 15:36	9/08/17 13:33	EPA 6010
7440-31-5	Tin	5.8	mg/kg dry	1.5	9/05/17 15:36	9/08/17 13:33	EPA 6010
7440-32-6	Titanium	19	mg/kg dry	0.50	9/05/17 15:36	9/08/17 13:33	EPA 6010
7440-62-2	Vanadium	9.6	mg/kg dry	0.50	9/05/17 15:36	9/08/17 13:33	EPA 6010
7440-65-3	Zinc	230	mg/kg dry	2.0	9/05/17 15:36	9/08/17 16:47	EPA 6010
7440-66-6	Zinc	230	mg/kg dry	2.0	9/05/17 15:36	9/08/17 16:47	EPA 6010



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 4 Science and Ecosystem Support Division  
980 College Station Road, Athens, Georgia 30605-2700

D.A.R.T. Id: 17-0517

Project: 17-0517, BGF INDUSTRIES - Reported by Terri White

## Physical Properties

**Project: 17-0517, BGF INDUSTRIES**

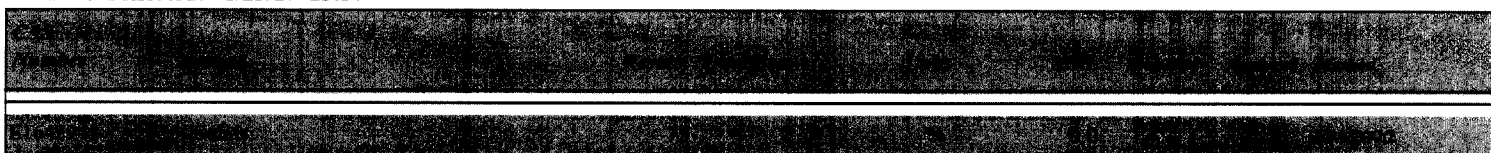
**Sample ID:** BGF-009-SD

**Lab ID:** E173402-09

**Station ID:** BGF009

**Matrix:** Sediment

**Date Collected:** 8/23/17 13:37







UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 4 Science and Ecosystem Support Division  
980 College Station Road, Athens, Georgia 30605-2700

D.A.R.T. Id: 17-0517

Project: 17-0517, BGF INDUSTRIES - Reported by Terri White

Total Metals

Project: 17-0517, BGF INDUSTRIES

Sample ID: BGF-010-SD

Lab ID: E173402-10

Station ID: BGF010

Matrix: Sediment

Date Collected: 8/23/17 13:25

Sample Number	Element	Concentration	Units	Method	Date	Time	Reference
7440-36-0	Antimony	0.20 U	mg/kg dry	0.20	9/05/17 15:40	9/07/17 19:39	EPA 200.8
7440-39-3	Barium	25	mg/kg dry	0.50	9/05/17 15:36	9/08/17 13:36	EPA 6010
7440-43-9	Cadmium	0.10 U	mg/kg dry	0.10	9/05/17 15:40	9/07/17 19:39	EPA 200.8
7440-47-3	Chromium	3.8	mg/kg dry	0.50	9/05/17 15:36	9/08/17 13:36	EPA 6010
7440-50-8	Copper	10	mg/kg dry	1.0	9/05/17 15:36	9/08/17 13:36	EPA 6010
7439-92-1	Lead	24	mg/kg dry	0.20	9/05/17 15:40	9/07/17 19:39	EPA 200.8
7439-96-5	Manganese	17	mg/kg dry	0.50	9/05/17 15:36	9/08/17 13:36	EPA 6010
7439-98-7	Molybdenum	1.0 U	mg/kg dry	1.0	9/05/17 15:36	9/08/17 13:36	EPA 6010
7440-09-7	Potassium	110	mg/kg dry	100	9/05/17 15:36	9/08/17 13:36	EPA 6010
7440-22-4	Silver	0.50 U	mg/kg dry	0.50	9/05/17 15:36	9/08/17 13:36	EPA 6010
7440-24-6	Strontium	4.0	mg/kg dry	0.50	9/05/17 15:36	9/08/17 13:36	EPA 6010
7440-31-5	Tin	1.5 U	mg/kg dry	1.5	9/05/17 15:36	9/08/17 13:36	EPA 6010
7440-62-2	Vanadium	7.0	mg/kg dry	0.50	9/05/17 15:36	9/08/17 13:36	EPA 6010
7440-66-6	Zinc	51	mg/kg dry	1.0	9/05/17 15:36	9/08/17 13:36	EPA 6010





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 4 Science and Ecosystem Support Division

980 College Station Road, Athens, Georgia 30605-2700

D.A.R.T. Id: 17-0517

Project: 17-0517, BGF INDUSTRIES - Reported by Terri White

## Physical Properties

**Project: 17-0517, BGF INDUSTRIES**

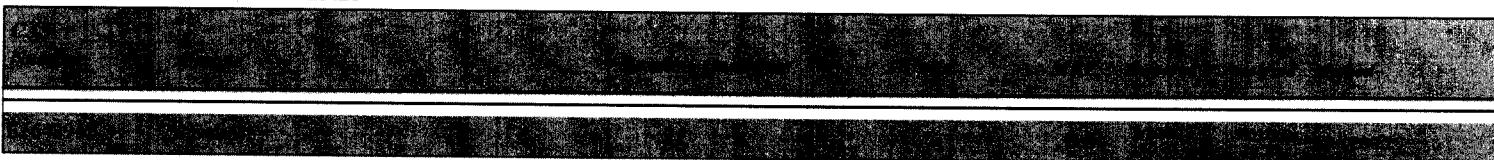
**Sample ID: BGF-010-SD**

**Lab ID: E173402-10**

**Station ID: BGF010**

**Matrix: Sediment**

**Date Collected: 8/23/17 13:25**





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 4 Science and Ecosystem Support Division  
980 College Station Road, Athens, Georgia 30605-2700

D.A.R.T. Id: 17-0517

Project: 17-0517, BGF INDUSTRIES - Reported by Terri White

**Total Metals**

**Project: 17-0517, BGF INDUSTRIES**

**Sample ID: BGF-011-SD**

**Lab ID: E173402-11**

**Station ID: BGF011**

**Matrix: Sediment**

**Date Collected: 8/23/17 12:55**

Sample ID	Element	Concentration	Units	Method	9/05/17 15:40	9/07/17 19:44	EPA Method
7440-36-0	Antimony	0.20	U	mg/kg dry	0.20		EPA 200.8
7440-39-3	Barium	17		mg/kg dry	0.50		EPA 6010
7440-43-9	Cadmium	0.15		mg/kg dry	0.10		EPA 200.8
7440-47-3	Chromium	2.0		mg/kg dry	0.50		EPA 6010
7440-50-8	Copper	11		mg/kg dry	1.0		EPA 6010
7439-92-1	Lead	31		mg/kg dry	0.20		EPA 200.8
7439-96-5	Manganese	34		mg/kg dry	0.50		EPA 6010
7439-98-7	Molybdenum	1.0	U	mg/kg dry	1.0		EPA 6010
7440-09-7	Potassium	100	U	mg/kg dry	100		EPA 6010
7440-22-4	Silver	0.50	U	mg/kg dry	0.50		EPA 6010
7440-24-6	Strontium	4.2		mg/kg dry	0.50		EPA 6010
7440-31-5	Tin	1.5	U	mg/kg dry	1.5		EPA 6010
7440-62-2	Vanadium	2.7		mg/kg dry	0.50		EPA 6010
7440-66-6	Zinc	53		mg/kg dry	1.0		EPA 6010



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 4 Science and Ecosystem Support Division  
980 College Station Road, Athens, Georgia 30605-2700

D.A.R.T. Id: 17-0517

Project: 17-0517, BGF INDUSTRIES - Reported by Terri White

## Physical Properties

Project: 17-0517, BGF INDUSTRIES

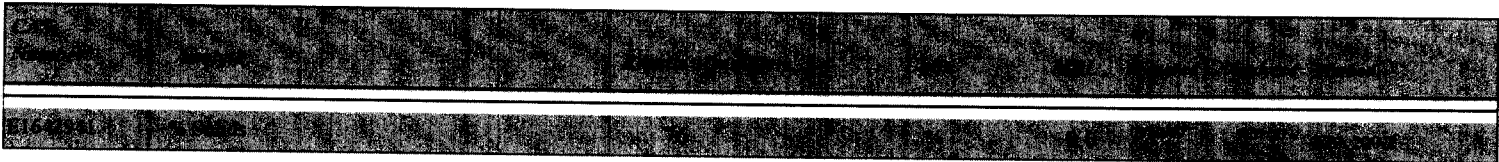
Sample ID: BGF-011-SD

Lab ID: E173402-11

Station ID: BGF011

Matrix: Sediment

Date Collected: 8/23/17 12:55





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 4 Science and Ecosystem Support Division  
980 College Station Road, Athens, Georgia 30605-2700

D.A.R.T. Id: 17-0517

Project: 17-0517, BGF INDUSTRIES - Reported by Terri White

**Total Metals (TMTL) - Quality Control**

**US-EPA, Region 4, SESD**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 1709007 - M 200.2 Metals Soil**

Blank (1709007-BLK1)

Prepared: 09/05/17 Analyzed: 09/08/17

**EPA 6010**

Aluminum	U	10	mg/kg dry							U
Barium	U	0.50	"							U
Beryllium	U	0.30	"							U
Calcium	U	25	"							U
Chromium	U	0.50	"							U
Cobalt	U	0.50	"							U
Copper	U	1.0	"							U
Iron	U	10	"							U
Magnesium	U	25	"							U
Manganese	U	0.50	"							U
Molybdenum	U	1.0	"							U
Nickel	U	1.0	"							U
Potassium	U	100	"							U
Silver	U	0.50	"							U
Sodium	U	100	"							U
Strontium	U	0.50	"							U
Tin	U	1.5	"							U
Titanium	U	0.50	"							U
Vanadium	U	0.50	"							U
Yttrium	U	0.30	"							U
Zinc	U	1.0	"							U

Blank (1709007-BLK2)

Prepared: 09/05/17 Analyzed: 09/08/17

**EPA 6010**

Aluminum	U	10	mg/kg dry							U
Barium	U	0.50	"							U
Beryllium	U	0.30	"							U
Calcium	U	25	"							U
Chromium	U	0.50	"							U
Cobalt	U	0.50	"							U
Copper	U	1.0	"							U
Iron	U	10	"							U
Magnesium	U	25	"							U
Manganese	U	0.50	"							U
Molybdenum	U	1.0	"							U
Nickel	U	1.0	"							U
Potassium	U	100	"							U
Silver	U	0.50	"							U
Sodium	U	100	"							U



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

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980 College Station Road, Athens, Georgia 30605-2700

D.A.R.T. Id: 17-0517

Project: 17-0517, BGF INDUSTRIES - Reported by Terri White

**Total Metals (TMTL) - Quality Control**

**US-EPA, Region 4, SESD**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 1709007 - M 200.2 Metals Soil**

**Blank (1709007-BLK2)**

Prepared: 09/05/17 Analyzed: 09/08/17

Strontium	U	0.50	mg/kg dry							U
Tin	U	1.5	"							U
Titanium	U	0.50	"							U
Vanadium	U	0.50	"							U
Yttrium	U	0.30	"							U
Zinc	U	1.0	"							U

**LCS (1709007-BS1)**

Prepared: 09/05/17 Analyzed: 09/08/17

**EPA 6010**

Aluminum	508.86	10	mg/kg dry	500.00	102	85-115
Barium	54.072	0.50	"	50.000	108	85-115
Beryllium	20.964	0.30	"	20.000	105	85-115
Calcium	490.83	25	"	500.00	98.2	85-115
Chromium	48.059	0.50	"	50.000	96.1	85-115
Cobalt	48.493	0.50	"	50.000	97.0	85-115
Copper	31.048	1.0	"	30.000	103	85-115
Iron	523.59	10	"	500.00	105	85-115
Magnesium	514.83	25	"	500.00	103	85-115
Manganese	513.29	0.50	"	500.00	103	85-115
Molybdenum	31.812	1.0	"	30.000	106	85-115
Nickel	77.985	1.0	"	80.000	97.5	85-115
Potassium	1014.6	100	"	1000.0	101	85-115
Silver	9.6671	0.50	"	10.000	96.7	85-115
Sodium	993.96	100	"	1000.0	99.4	85-115
Strontium	37.728	0.50	"	40.000	94.3	85-115
Tin	99.098	1.5	"	100.00	99.1	85-115
Titanium	51.637	0.50	"	50.000	103	85-115
Vanadium	39.033	0.50	"	40.000	97.6	85-115
Yttrium	29.942	0.30	"	30.000	99.8	85-115
Zinc	105.53	1.0	"	100.00	106	85-115



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 4 Science and Ecosystem Support Division

980 College Station Road, Athens, Georgia 30605-2700

D.A.R.T. Id: 17-0517

Project: 17-0517, BGF INDUSTRIES - Reported by Terri White

**Total Metals (TMTL) - Quality Control**

**US-EPA, Region 4, SESD**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 1709007 - M 200.2 Metals Soil**

**Matrix Spike (1709007-MS1)**

**Source: E173402-01**

**Prepared: 09/05/17 Analyzed: 09/08/17**

**EPA 6010**

Aluminum	6413.5	9.9	mg/kg dry	496.13	5668.8	150	75-125			XM-1
Barium	167.06	0.50	"	49.613	121.96	90.9	75-125			
Beryllium	20.703	0.30	"	19.845	0.18117	103	75-125			
Calcium	3394.5	25	"	496.13	2929.8	93.7	75-125			
Chromium	55.590	0.50	"	49.613	10.556	90.8	75-125			
Cobalt	48.035	0.50	"	49.613	2.0342	92.7	75-125			
Copper	43.849	0.99	"	29.768	13.079	103	75-125			
Iron	6999.5	9.9	"	496.13	6641.2	72.2	75-125			XM-1
Magnesium	851.05	25	"	496.13	322.95	106	75-125			
Manganese	763.58	0.50	"	496.13	288.38	95.8	75-125			
Molybdenum	22.404	0.99	"	29.768	U	75.3	75-125			
Nickel	76.164	0.99	"	79.381	2.2463	93.1	75-125			
Potassium	1331.1	99	"	992.26	306.22	103	75-125			
Silver	9.6140	0.50	"	9.9226	0.061552	96.3	75-125			
Sodium	1021.4	99	"	992.26	10.184	102	75-125			
Strontium	57.567	0.50	"	39.690	20.257	94.0	75-125			
Tin	86.088	1.5	"	99.226	0.85175	85.9	75-125			
Titanium	71.821	0.50	"	49.613	32.839	78.6	75-125			
Vanadium	51.018	0.50	"	39.690	13.477	94.6	75-125			
Yttrium	31.672	0.30	"	29.768	2.2575	98.8	75-125			
Zinc	213.99	0.99	"	99.226	116.82	97.9	75-125			

**Matrix Spike (1709007-MS2)**

**Source: E173402-11**

**Prepared: 09/05/17 Analyzed: 09/08/17**

**EPA 6010**

Aluminum	1591.2	9.9	mg/kg dry	495.93	1216.1	75.6	75-125			
Barium	67.985	0.50	"	49.593	16.898	103	75-125			
Beryllium	20.657	0.30	"	19.837	0.035791	104	75-125			
Calcium	865.90	25	"	495.93	415.19	90.9	75-125			
Chromium	49.019	0.50	"	49.593	2.0354	94.7	75-125			
Cobalt	48.156	0.50	"	49.593	0.31874	96.5	75-125			
Copper	42.162	0.99	"	29.756	10.856	105	75-125			
Iron	1237.6	9.9	"	495.93	764.11	95.5	75-125			
Magnesium	588.35	25	"	495.93	77.467	103	75-125			
Manganese	537.18	0.50	"	495.93	34.481	101	75-125			
Molybdenum	28.893	0.99	"	29.756	U	97.1	75-125			
Nickel	76.623	0.99	"	79.349	0.45913	96.0	75-125			
Potassium	1092.9	99	"	991.87	54.561	105	75-125			
Silver	9.6750	0.50	"	9.9187	U	97.5	75-125			
Sodium	1068.1	99	"	991.87	17.293	106	75-125			



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 4 Science and Ecosystem Support Division

980 College Station Road, Athens, Georgia 30605-2700

D.A.R.T. Id: 17-0517

Project: 17-0517, BGF INDUSTRIES - Reported by Terri White

**Total Metals (TMTL) - Quality Control**

**US-EPA, Region 4, SESD**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 1709007 - M 200.2 Metals Soil**

**Matrix Spike (1709007-MS2)**

Source: E173402-11

Prepared: 09/05/17 Analyzed: 09/08/17

Strontium	42.129	0.50	mg/kg dry	39.675	4.1756	95.7	75-125			
Tin	95.001	1.5	"	99.187	1.2587	94.5	75-125			
Titanium	51.188	0.50	"	49.593	7.7787	87.5	75-125			
Vanadium	40.586	0.50	"	39.675	2.6858	95.5	75-125			
Yttrium	30.882	0.30	"	29.756	0.91011	101	75-125			
Zinc	149.46	0.99	"	99.187	53.164	97.1	75-125			

**Matrix Spike Dup (1709007-MSD1)**

Source: E173402-01

Prepared: 09/05/17 Analyzed: 09/08/17

**EPA 6010**

Aluminum	5971.4	9.9	mg/kg dry	496.62	5668.8	60.9	75-125	7.14	20	XM-1
Barium	165.06	0.50	"	49.662	121.96	86.8	75-125	1.20	20	
Beryllium	20.417	0.30	"	19.865	0.18117	102	75-125	1.39	20	
Calcium	3232.8	25	"	496.62	2929.8	61.0	75-125	4.88	20	QM-1
Chromium	55.137	0.50	"	49.662	10.556	89.8	75-125	0.817	20	
Cobalt	47.321	0.50	"	49.662	2.0342	91.2	75-125	1.50	20	
Copper	43.834	0.99	"	29.797	13.079	103	75-125	0.0339	20	
Iron	6206.0	9.9	"	496.62	6641.2	-87.6	75-125	12.0	20	XM-1
Magnesium	833.59	25	"	496.62	322.95	103	75-125	2.07	20	
Manganese	748.87	0.50	"	496.62	288.38	92.7	75-125	1.94	20	
Molybdenum	22.153	0.99	"	29.797	U	74.3	75-125	1.13	20	QM-1
Nickel	75.531	0.99	"	79.460	2.2463	92.2	75-125	0.834	20	
Potassium	1314.7	99	"	993.25	306.22	102	75-125	1.24	20	
Silver	9.5256	0.50	"	9.9325	0.061552	95.3	75-125	0.924	20	
Sodium	1057.0	99	"	993.25	10.184	105	75-125	3.43	20	
Strontium	56.977	0.50	"	39.730	20.257	92.4	75-125	1.03	20	
Tin	84.494	1.5	"	99.325	0.85175	84.2	75-125	1.87	20	
Titanium	69.838	0.50	"	49.662	32.839	74.5	75-125	2.80	20	QM-1
Vanadium	49.104	0.50	"	39.730	13.477	89.7	75-125	3.82	20	
Yttrium	31.219	0.30	"	29.797	2.2575	97.2	75-125	1.44	20	
Zinc	204.42	0.99	"	99.325	116.82	88.2	75-125	4.58	20	



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 4 Science and Ecosystem Support Division

980 College Station Road, Athens, Georgia 30605-2700

D.A.R.T. Id: 17-0517

Project: 17-0517, BGF INDUSTRIES - Reported by Terri White

**Total Metals (TMTL) - Quality Control**

**US-EPA, Region 4, SESD**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 1709007 - M 200.2 Metals Soil**

Matrix Spike Dup (1709007-MSD2)

Source: E173402-11

Prepared: 09/05/17 Analyzed: 09/08/17

**EPA 6010**

Aluminum	1799.9	9.9	mg/kg dry	495.05	1216.1	118	75-125	12.3	20	
Barium	71.857	0.50	"	49.505	16.898	111	75-125	5.54	20	
Beryllium	20.566	0.30	"	19.802	0.035791	104	75-125	0.442	20	
Calcium	920.82	25	"	495.05	415.19	102	75-125	6.15	20	
Chromium	48.902	0.50	"	49.505	2.0354	94.7	75-125	0.239	20	
Cobalt	48.039	0.50	"	49.505	0.31874	96.4	75-125	0.245	20	
Copper	43.152	0.99	"	29.703	10.856	109	75-125	2.32	20	
Iron	1461.6	9.9	"	495.05	764.11	141	75-125	16.6	20	QM-2
Magnesium	605.36	25	"	495.05	77.467	107	75-125	2.85	20	
Manganese	528.37	0.50	"	495.05	34.481	99.8	75-125	1.65	20	
Molybdenum	28.230	0.99	"	29.703	U	95.0	75-125	2.32	20	
Nickel	76.128	0.99	"	79.208	0.45913	95.5	75-125	0.649	20	
Potassium	1114.1	99	"	990.10	54.561	107	75-125	1.92	20	
Silver	9.6439	0.50	"	9.9010	U	97.4	75-125	0.321	20	
Sodium	1088.3	99	"	990.10	17.293	108	75-125	1.87	20	
Strontium	42.953	0.50	"	39.604	4.1756	97.9	75-125	1.94	20	
Tin	94.664	1.5	"	99.010	1.2587	94.3	75-125	0.355	20	
Titanium	51.633	0.50	"	49.505	7.7787	88.6	75-125	0.867	20	
Vanadium	40.850	0.50	"	39.604	2.6858	96.4	75-125	0.649	20	
Yttrium	30.841	0.30	"	29.703	0.91011	101	75-125	0.134	20	
Zinc	158.36	0.99	"	99.010	53.164	106	75-125	5.78	20	

**MRL Verification (1709007-PS1)**

Prepared: 09/05/17 Analyzed: 09/08/17

**EPA 6010**

Aluminum	10.402	10	mg/kg dry	10.000		104	70-130			MRL-3
Barium	0.57237	0.50	"	0.50000		114	70-130			MRL-3
Beryllium	0.31037	0.30	"	0.30000		103	70-130			MRL-3
Calcium	24.793	25	"	25.000		99.2	70-130			MRL-3, U
Chromium	0.52696	0.50	"	0.50000		105	70-130			MRL-3
Cobalt	0.52281	0.50	"	0.50000		105	70-130			MRL-3
Copper	1.0614	1.0	"	1.0000		106	70-130			MRL-3
Iron	10.322	10	"	10.000		103	70-130			MRL-3
Magnesium	25.721	25	"	25.000		103	70-130			MRL-3
Manganese	0.51197	0.50	"	0.50000		102	70-130			MRL-3
Molybdenum	0.99685	1.0	"	1.0000		99.7	70-130			MRL-3, U
Nickel	1.0565	1.0	"	1.0000		106	70-130			MRL-3
Potassium	101.59	100	"	100.00		102	70-130			MRL-3





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 4 Science and Ecosystem Support Division  
980 College Station Road, Athens, Georgia 30605-2700

D.A.R.T. Id: 17-0517

Project: 17-0517, BGF INDUSTRIES - Reported by Terri White

**Total Metals (TMTL) - Quality Control**

**US-EPA, Region 4, SESD**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 1709007 - M 200.2 Metals Soil**

**MRL Verification (1709007-PS1)**

Prepared: 09/05/17 Analyzed: 09/08/17

Silver	0.50786	0.50	mg/kg dry	0.50000		102	70-130			MRL-3
Sodium	102.31	100	"	100.00		102	70-130			MRL-3
Strontium	0.49236	0.50	"	0.50000		98.5	70-130			MRL-3, U
Tin	1.5149	1.5	"	1.5000		101	70-130			MRL-3
Titanium	0.55462	0.50	"	0.50000		111	70-130			MRL-3
Vanadium	0.51159	0.50	"	0.50000		102	70-130			MRL-3
Yttrium	0.31623	0.30	"	0.30000		105	70-130			MRL-3
Zinc	1.1100	1.0	"	1.0000		111	70-130			MRL-3

**Batch 1709008 - M 200.2 Metals Soil**

**Blank (1709008-BLK1)**

Prepared: 09/05/17 Analyzed: 09/07/17

**EPA 200.8**

Antimony	U	0.10	mg/kg dry							U
Arsenic	U	0.10	"							U
Cadmium	U	0.050	"							U
Lead	U	0.10	"							U
Selenium	U	0.20	"							U
Thallium	U	0.10	"							U

**Blank (1709008-BLK2)**

Prepared: 09/05/17 Analyzed: 09/07/17

**EPA 200.8**

Antimony	U	0.10	mg/kg dry							U
Arsenic	U	0.10	"							U
Cadmium	U	0.050	"							U
Lead	U	0.10	"							U
Selenium	U	0.20	"							U
Thallium	U	0.10	"							U



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Project: 17-0517, BGF INDUSTRIES - Reported by Terri White

## Total Metals (TMTL) - Quality Control

### US-EPA, Region 4, SESD

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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#### Batch 1709008 - M 200.2 Metals Soil

Blank (1709008-BLK3)

Prepared: 09/05/17 Analyzed: 09/08/17

EPA 200.8

Mercury	U	0.040	mg/kg dry							U
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Blank (1709008-BLK4)

Prepared: 09/05/17 Analyzed: 09/08/17

EPA 200.8

Mercury	U	0.040	mg/kg dry							U
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LCS (1709008-BS1)

Prepared: 09/05/17 Analyzed: 09/07/17

EPA 200.8

Antimony	97.439	1.2	mg/kg dry	100.00		97.4	85-115
Arsenic	47.959	1.2	"	50.000		95.9	85-115
Cadmium	19.150	0.62	"	20.000		95.8	85-115
Lead	102.65	1.2	"	100.00		103	85-115
Selenium	96.550	2.5	"	100.00		96.5	85-115
Thallium	20.830	1.2	"	20.000		104	85-115

LCS (1709008-BS2)

Prepared: 09/05/17 Analyzed: 09/08/17

EPA 200.8

Mercury	5.5184	0.50	mg/kg dry	5.0000		110	85-115
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Matrix Spike (1709008-MS1)

Source: E173402-01

Prepared: 09/05/17 Analyzed: 09/07/17

EPA 200.8

Antimony	49.068	1.2	mg/kg dry	99.226	0.57639	48.9	70-130	QM-1
Arsenic	43.160	1.2	"	49.613	1.8822	83.2	70-130	
Cadmium	19.246	0.62	"	19.845	0.28634	95.5	70-130	
Lead	158.36	1.2	"	99.226	60.990	98.1	70-130	
Selenium	70.150	2.5	"	99.226	0.24680	70.7	70-130	
Thallium	19.606	1.2	"	19.845	0.053724	98.8	70-130	

Matrix Spike (1709008-MS2)

Source: E173402-11

Prepared: 09/05/17 Analyzed: 09/07/17

EPA 200.8

Antimony	74.502	1.2	mg/kg dry	99.187	0.16018	75.1	70-130
Arsenic	47.061	1.2	"	49.593	0.97387	92.9	70-130
Cadmium	19.252	0.62	"	19.837	0.15153	97.1	70-130
Lead	123.49	1.2	"	99.187	31.156	93.1	70-130
Selenium	92.571	2.5	"	99.187	0.22689	93.3	70-130
Thallium	19.665	1.2	"	19.837	U	99.1	70-130



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**Total Metals (TMTL) - Quality Control**

**US-EPA, Region 4, SEDS**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 1709008 - M 200.2 Metals Soil**

**Matrix Spike (1709008-MS3)**

Source: E173402-01RE2

Prepared: 09/05/17 Analyzed: 09/08/17

**EPA 200.8**

Mercury	5.2700	0.50	mg/kg dry	4.9613	0.094821	106	70-130			
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**Matrix Spike (1709008-MS4)**

Source: E173402-11RE1

Prepared: 09/05/17 Analyzed: 09/08/17

**EPA 200.8**

Mercury	5.3180	0.50	mg/kg dry	4.9593	0.058312	107	70-130			
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**Matrix Spike Dup (1709008-MSD1)**

Source: E173402-01

Prepared: 09/05/17 Analyzed: 09/07/17

**EPA 200.8**

Antimony	49.067	1.2	mg/kg dry	99.325	0.57639	48.8	70-130	0.00196	20	QM-1
Arsenic	42.224	1.2	"	49.662	1.8822	81.2	70-130	2.19	20	
Cadmium	18.900	0.62	"	19.865	0.28634	93.7	70-130	1.81	20	
Lead	155.01	1.2	"	99.325	60.990	94.7	70-130	2.14	20	
Selenium	71.501	2.5	"	99.325	0.24680	72.0	70-130	1.91	20	
Thallium	19.366	1.2	"	19.865	0.053724	97.5	70-130	1.23	20	

**Matrix Spike Dup (1709008-MSD2)**

Source: E173402-11

Prepared: 09/05/17 Analyzed: 09/07/17

**EPA 200.8**

Antimony	73.448	1.2	mg/kg dry	99.010	0.16018	74.2	70-130	1.43	20	
Arsenic	46.402	1.2	"	49.505	0.97387	91.8	70-130	1.41	20	
Cadmium	19.162	0.62	"	19.802	0.15153	96.8	70-130	0.471	20	
Lead	131.87	1.2	"	99.010	31.156	102	70-130	6.56	20	
Selenium	91.506	2.5	"	99.010	0.22689	92.4	70-130	1.16	20	
Thallium	20.147	1.2	"	19.802	U	102	70-130	2.42	20	

**Matrix Spike Dup (1709008-MSD3)**

Source: E173402-01RE2

Prepared: 09/05/17 Analyzed: 09/08/17

**EPA 200.8**

Mercury	5.4417	0.50	mg/kg dry	4.9662	0.094821	110	70-130	3.21	20	
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**Matrix Spike Dup (1709008-MSD4)**

Source: E173402-11RE1

Prepared: 09/05/17 Analyzed: 09/08/17

**EPA 200.8**

Mercury	5.3620	0.50	mg/kg dry	4.9505	0.058312	108	70-130	0.824	20	
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**MRL Verification (1709008-PS1)**

Prepared: 09/05/17 Analyzed: 09/07/17

**EPA 200.8**

Antimony	0.055315	0.10	mg/kg dry	0.050000		111	65-135			MRL-3, U
Arsenic	0.11486	0.10	"	0.10000		115	65-135			MRL-3



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Project: 17-0517, BGF INDUSTRIES - Reported by Terri White

**Total Metals (TMTL) - Quality Control**  
**US-EPA, Region 4, SESD**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1709008 - M 200.2 Metals Soil										
MRL Verification (1709008-PS1)				Prepared: 09/05/17 Analyzed: 09/07/17						
Cadmium	0.049692	0.050	mg/kg dry	0.050000		99.4	65-135			MRL-3, U
Lead	0.10779	0.10	"	0.10000		108	65-135			MRL-3
Selenium	0.23337	0.20	"	0.20000		117	65-135			MRL-3
Thallium	0.052966	0.10	"	0.050000		106	65-135			MRL-3, U
MRL Verification (1709008-PS2)				Prepared: 09/05/17 Analyzed: 09/08/17						
EPA 200.8										
Mercury	0.10519	0.040	mg/kg dry	0.080000		131	65-135			MRL-3



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Physical Properties (PHYSP) - Quality Control

US-EPA, Region 4, SESD

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 1708102 - M % Solids

Duplicate (1708102-DUP1)

Source: E173402-02

Prepared: 08/30/17 Analyzed: 09/01/17

EPA 200.2

% Solids	94.106	0.0	%		93.921			0.197	10	
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D.A.R.T. Id: 17-0517

Project: 17-0517, BGF INDUSTRIES - Reported by Terri White

**Notes and Definitions for QC Samples**

- U        The analyte was not detected at or above the reporting limit.
- MRL-3    MRL verification for Soil matrix
- QM-1    Matrix Spike Recovery less than method control limits
- QM-2    Matrix Spike Recovery greater than method control limits
- XM-1    Sample background/spike ratio higher than method evaluation criteria



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

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D.A.R.T. Id: 17-0517

Project: 17-0517, BGF INDUSTRIES - Reported by Jason Collum

September 20, 2017

4SESD-ASB

**MEMORANDUM**

**SUBJECT:** FINAL Analytical Report  
Project: 17-0517, BGF INDUSTRIES  
Superfund Remedial

**FROM:** Jason Collum  
OCS Analyst

**THRU:** Jeffrey Hendel, Chief  
ASB Organic Chemistry Section

**TO:** Jeffery Crowley

Attached are the final results for the analytical groups listed below. These analyses were performed in accordance with the Analytical Support Branch's (ASB) Laboratory Operations and Quality Assurance Manual (ASB LOQAM) found at [www.epa.gov/region4/sesd/asbsop](http://www.epa.gov/region4/sesd/asbsop). Any unique project data quality objectives specified in writing by the data requestor have also been incorporated into the data unless otherwise noted in the Report Narrative. Chemistry data have been verified based on the ASB LOQAM specifications and have been qualified by this laboratory if the applicable quality control criteria were not met. Verification is defined in Section 5.2 of the ASB LOQAM. For a listing of specific data qualifiers and explanations, please refer to the Data Qualifier Definitions included in this report. The reported results are accurate within the limits of the method(s) and are representative only of the samples as received by the laboratory.

Analyses Included in this report:

Method Used:

Accreditations:

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**PCB Aroclors (PCBA)**

PCB aroclors

EPA 8082 (Soil)

ISO



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

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D.A.R.T. Id: 17-0517

Project: 17-0517, BGF INDUSTRIES - Reported by Jason Collum

**Report Narrative for Project: 17-0517q Analysis: PCBA**

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**Sample Disposal Policy**

Due to limited space for long term sample storage, ASB's policy is to dispose of samples on a periodic schedule. Air samples collected in summa canisters will be disposed of 30 days following the issuance of this report. All other sample media including original samples, sample extracts and or digestates will be disposed of, in accordance with applicable regulations, 60 days from the date of this report.

This sample disposal policy does not apply to criminal samples which are held until the laboratory is notified by the criminal investigators that case development and litigation are complete.

These samples may be held in the laboratory's custody for a longer period of time. If samples require storage beyond the 60-day period, please contact the Sample Control Coordinator by e-mail at [R4SampleCustody@epa.gov](mailto:R4SampleCustody@epa.gov).

cc: Nardina Turner





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

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D.A.R.T. Id: 17-0517

Project: 17-0517, BGF INDUSTRIES - Reported by Jason Collum

**SAMPLES INCLUDED IN THIS REPORT**

**Project: 17-0517, BGF INDUSTRIES**

Sample ID	Laboratory ID	Matrix	Date Collected	Date Received
BGF-001-SF	E173402-01	Surface Soil	8/23/17 14:40	8/24/17 10:22
BGF-002-SF	E173402-02	Surface Soil	8/23/17 11:25	8/24/17 10:22
BGF-003-SF	E173402-03	Surface Soil	8/23/17 11:40	8/24/17 10:22
BGF-004-SF	E173402-04	Surface Soil	8/23/17 11:55	8/24/17 10:22
BGF-005-SF	E173402-05	Surface Soil	8/23/17 12:08	8/24/17 10:22
BGF-006-SD	E173402-06	Sediment	8/23/17 14:30	8/24/17 10:22
BGF-007-SD	E173402-07	Sediment	8/23/17 14:35	8/24/17 10:22
BGF-008-SD	E173402-08	Sediment	8/23/17 13:50	8/24/17 10:22
BGF-009-SD	E173402-09	Sediment	8/23/17 13:37	8/24/17 10:22
BGF-010-SD	E173402-10	Sediment	8/23/17 13:25	8/24/17 10:22
BGF-011-SD	E173402-11	Sediment	8/23/17 12:55	8/24/17 10:22



## UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

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Project: 17-0517, BGF INDUSTRIES - Reported by Jason Collum

### DATA QUALIFIER DEFINITIONS

U	The analyte was not detected at or above the reporting limit.
CR	MRL elevated due to the presence of Ar1254.
CRA	Results estimated due to PCB in sample being weathered/degraded.
I-5	Mixture of Aroclors in sample; predominant Aroclors reported
J	The identification of the analyte is acceptable; the reported value is an estimate.

### ACRONYMS AND ABBREVIATIONS

CAS	Chemical Abstracts Service  Note: Analytes with no known CAS identifiers have been assigned codes beginning with "E", the EPA ID as assigned by the EPA Substance Registry System ( <a href="http://www.epa.gov/srs">www.epa.gov/srs</a> ), or beginning with "R4-", a unique identifier assigned by the EPA Region 4 laboratory.
MDL	Method Detection Limit - The minimum concentration of a substance (an analyte) that can be measured and reported with a 99% confidence that the analyte concentration is greater than zero.
MRL	Minimum Reporting Limit - Analyte concentration that corresponds to the lowest demonstrated level of acceptable quantitation. The MRL is sample-specific and accounts for preparation weights and volumes, dilutions, and moisture content of soil/sediments.
TIC	Tentatively Identified Compound - An analyte identified based on a match with the instrument software's mass spectral library. A calibration standard has not been analyzed to confirm the compound's identification or the estimated concentration reported.

### ACCREDITATIONS:

ISO	ASB is accredited by ISO/IEC 17025, including an amplification for forensic accreditation through ANSI-ASQ National Accreditation Board.  Refer to the certificate and scope of accreditation AT-1644 at: <a href="http://www.epa.gov/aboutepa/about-region-4s-science-and-ecosystem-support-division-sesd">http://www.epa.gov/aboutepa/about-region-4s-science-and-ecosystem-support-division-sesd</a>
NR	The EPA Region 4 Laboratory has not requested accreditation for this test.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 4 Science and Ecosystem Support Division  
980 College Station Road, Athens, Georgia 30605-2700

D.A.R.T. Id: 17-0517

Project: 17-0517, BGF INDUSTRIES - Reported by Jason Collum

**PCB Aroclors**

**Project: 17-0517, BGF INDUSTRIES**

**Sample ID: BGF-001-SF**

**Lab ID: E173402-01**

**Station ID: BGF001**

**Matrix: Surface Soil**

**Date Collected: 8/23/17 14:40**

11104-28-2	PCB-1221 (Aroclor 1221)	18 U	ug/kg dry	18	8/29/17 11:46	9/14/17 17:15	EPA 8082
53469-21-9	PCB-1242 (Aroclor 1242)	27 U, CR	ug/kg dry	27	8/29/17 11:46	9/14/17 17:15	EPA 8082
11097-69-1	PCB-1254 (Aroclor 1254)	26 J, CRa, I-5	ug/kg dry	8.9	8/29/17 11:46	9/14/17 17:15	EPA 8082
37324-23-5	PCB-1262 (Aroclor 1262)	27 U, CR	ug/kg dry	27	8/29/17 11:46	9/14/17 17:15	EPA 8082



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 4 Science and Ecosystem Support Division  
980 College Station Road, Athens, Georgia 30605-2700

D.A.R.T. Id: 17-0517

Project: 17-0517, BGF INDUSTRIES - Reported by Jason Collum

PCB Aroclors

Project: 17-0517, BGF INDUSTRIES

Sample ID: BGF-002-SF

Lab ID: E173402-02

Station ID: BGF002

Matrix: Surface Soil

Date Collected: 8/23/17 11:25

C-45							
Name							
11104-28-2	PCB-1221 (Aroclor 1221)	18 U	ug/kg dry	18	8/29/17 11:46	9/14/17 17:34	EPA 8082
53469-21-9	PCB-1242 (Aroclor 1242)	8.9 U	ug/kg dry	8.9	8/29/17 11:46	9/14/17 17:34	EPA 8082
11097-69-1	PCB-1254 (Aroclor 1254)	8.9 U	ug/kg dry	8.9	8/29/17 11:46	9/14/17 17:34	EPA 8082
37324-23-5	PCB-1262 (Aroclor 1262)	8.9 U	ug/kg dry	8.9	8/29/17 11:46	9/14/17 17:34	EPA 8082



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 4 Science and Ecosystem Support Division  
980 College Station Road, Athens, Georgia 30605-2700

D.A.R.T. Id: 17-0517

Project: 17-0517, BGF INDUSTRIES - Reported by Jason Collum

**PCB Aroclors**

**Project: 17-0517, BGF INDUSTRIES**

**Sample ID: BGF-003-SF**

**Lab ID: E173402-03**

**Station ID: BGF003**

**Matrix: Surface Soil**

**Date Collected: 8/23/17 11:40**

11104-28-2	PCB-1221 (Aroclor 1221)	440 U	ug/kg dry	440	8/29/17 11:46	9/14/17 20:20	EPA 8082
53469-21-9	PCB-1242 (Aroclor 1242)	740 U, CR	ug/kg dry	740	8/29/17 11:46	9/14/17 20:20	EPA 8082
11097-69-1	PCB-1254 (Aroclor 1254)	730 J, CRa, I-5	ug/kg dry	220	8/29/17 11:46	9/14/17 20:20	EPA 8082
37324-23-5	PCB-1262 (Aroclor 1262)	740 U, CR	ug/kg dry	740	8/29/17 11:46	9/14/17 20:20	EPA 8082



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 4 Science and Ecosystem Support Division  
980 College Station Road, Athens, Georgia 30605-2700

D.A.R.T. Id: 17-0517

Project: 17-0517, BGF INDUSTRIES - Reported by Jason Collum

PCB Aroclors

Project: 17-0517, BGF INDUSTRIES

Sample ID: BGF-004-SF

Lab ID: E173402-04

Station ID: BGF004

Matrix: Surface Soil

Date Collected: 8/23/17 11:55

CAS Name							
Concentration							
Unit							
11104-28-2	PCB-1221 (Aroclor 1221)	19 U	ug/kg dry	19	8/29/17 11:46	9/14/17 17:52	EPA 8082
53469-21-9	PCB-1242 (Aroclor 1242)	78 U, CR	ug/kg dry	78	8/29/17 11:46	9/14/17 17:52	EPA 8082
11097-69-1	PCB-1254 (Aroclor 1254)	77 J, CRa, I-5	ug/kg dry	9.3	8/29/17 11:46	9/14/17 17:52	EPA 8082
37324-23-5	PCB-1262 (Aroclor 1262)	78 U, CR	ug/kg dry	78	8/29/17 11:46	9/14/17 17:52	EPA 8082
11100-16-4	PCB-1260 (Aroclor 1260)	93 U	ug/kg dry	93	8/29/17 11:46	9/14/17 17:52	EPA 8082



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 4 Science and Ecosystem Support Division

980 College Station Road, Athens, Georgia 30605-2700

D.A.R.T. Id: 17-0517

Project: 17-0517, BGF INDUSTRIES - Reported by Jason Collum

**PCB Aroclors**

**Project: 17-0517, BGF INDUSTRIES**

**Sample ID: BGF-005-SF**

**Lab ID: E173402-05**

**Station ID: BGF005**

**Matrix: Surface Soil**

**Date Collected: 8/23/17 12:08**

11104-28-2	PCB-1221 (Aroclor 1221)	19 U	ug/kg dry	19	8/29/17 11:46	9/14/17 18:11	EPA 8082
53469-21-9	PCB-1242 (Aroclor 1242)	62 U, CR	ug/kg dry	62	8/29/17 11:46	9/14/17 18:11	EPA 8082
11097-69-1	PCB-1254 (Aroclor 1254)	61 J, CRa, I-5	ug/kg dry	9.5	8/29/17 11:46	9/14/17 18:11	EPA 8082
37324-23-5	PCB-1262 (Aroclor 1262)	62 U, CR	ug/kg dry	62	8/29/17 11:46	9/14/17 18:11	EPA 8082



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 4 Science and Ecosystem Support Division  
980 College Station Road, Athens, Georgia 30605-2700

D.A.R.T. Id: 17-0517

Project: 17-0517, BGF INDUSTRIES - Reported by Jason Collum

**PCB Aroclors**

**Project: 17-0517, BGF INDUSTRIES**

**Sample ID: BGF-006-SD**

**Lab ID: E173402-06**

**Station ID: BGF006**

**Matrix: Sediment**

**Date Collected: 8/23/17 14:30**

C-65 Name							
11104-28-2	PCB-1221 (Aroclor 1221)	21 U	ug/kg dry	21	8/29/17 11:46	9/14/17 18:29	EPA 8082
53469-21-9	PCB-1242 (Aroclor 1242)	10 U	ug/kg dry	10	8/29/17 11:46	9/14/17 18:29	EPA 8082
11097-69-1	PCB-1254 (Aroclor 1254)	10 U	ug/kg dry	10	8/29/17 11:46	9/14/17 18:29	EPA 8082
37324-23-5	PCB-1262 (Aroclor 1262)	10 U	ug/kg dry	10	8/29/17 11:46	9/14/17 18:29	EPA 8082
11100-14-4	PCB-1260 (Aroclor 1260)	10 U	ug/kg dry	10	8/29/17 11:46	9/14/17 18:29	EPA 8082



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**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**

REGION 4  
ATLANTA FEDERAL CENTER  
61 FORSYTH STREET  
ATLANTA, GEORGIA 30303-8960

MAR 21 2018

**INFORMATION REQUEST LETTER**  
**URGENT LEGAL MATTER--PROMPT REPLY REQUESTED**  
**SENT VIA UNITED PARCEL SERVICE**

BGF Industries, Inc.  
Attn: Mr. Robby Dunnagan, President  
3802 Robert Porcher Way  
Greensboro, NC 27410

SUBJ: Information Request for the Burlington Industries Cheraw Superfund Site in Cheraw, Chesterfield County, South Carolina

Dear Mr. Dunnagan:

This letter seeks your cooperation in providing information and documentation relating to the ownership of portions of the Burlington Industries Cheraw Superfund Site (the Site). A Superfund site is a facility contaminated with hazardous substances that may present a threat to human health or the environment.

The U.S. Environmental Protection Agency believes that you might have information which may assist the Agency in its investigation of the Site. In accordance with this investigation, the EPA requests that you respond to the enclosed Information Request.

Under the Comprehensive Environmental Response, Compensation, and Liability Act, commonly known as the federal "Superfund" law, the EPA is responsible for responding to the release or threat of release of hazardous substances, pollutants or contaminants into the environment. The EPA is spending public funds to investigate and control releases of hazardous substance or potential releases of hazardous substances at the Site. We encourage you to give this matter immediate attention and request that you provide a complete and truthful response to the questions in Enclosure C **within fourteen (14) calendar days** of your receipt of this letter.

**SITE DESCRIPTION**

The Burlington Industries Cheraw Superfund Site, located in Chesterfield County, South Carolina, includes the northwest portion of the property located at 650 Chesterfield County, South Carolina, the drainage ditch which originates on and is situated on that property and various residential properties that front Robin Hood Drive and Pecan Drive, and flows into an unnamed intermittent creek, (Western Ditch), the roughly three and two tenths (3.2) mile-long in a drainage corridor beginning at the unnamed



intermittent creek, which flows into wetlands and flows in an easterly direction to Wilson Branch, which flows in a northeasterly direction for about one half (0.5) mile to Huckleberry Branch, which then flows east/southeast for about one and one half (1.5) miles, and flows into the Great Pee Dee River, and various other properties situated along these waterways, including Huckleberry Park, and the areal extent of contamination.

In 1960, Burlington operated a plant known as the James Fabrics Plant #0154 (James Fabrics Plant) on the property located at 650 Chesterfield Road, Cheraw, South Carolina. On November 25, 1960, the Relief and Annuity Board of the Southern Baptist Convention purchased 51.75 acres, more or less, of property located at 650 Chesterfield Highway, Cheraw, Chesterfield County, South Carolina (51.75 Acres) from Burlington. The plant building and the Western Ditch are located on the 51.75 Acres.

On November 30, 1960, the Relief and Annuity Board entered into a lease with Burlington whereby Burlington leased the 51.75 Acres from the Relief and Annuity Board for a term of 20 years beginning on December 5, 1960. During the time in which the Relief and Annuity Board or Annuity Board owned the 51.75 Acres, the James Fabrics Plant manufactured woven commercial fiberglass and industrial fabrics. In about March 1970, the Chesterfield County Health Department received complaints concerning the discharge of wastes from the James Fabric Plant into an open ditch. An inspection by the State Board of Health on March 10, 1970, of the Burlington plant confirmed that Burlington was discharging "a green fluid from the James Fabrics plant" into an open ditch, which is now known to be the location of the Western Ditch.

Burlington's James Fabric's Plant eventually established a system whereby liquid wastes from its dyeing operation were piped to a clarifier behind the main building. From there, lighter liquids were pumped into the town's sewer system and the remainder of the waste then pumped to a series of six (6) nearby settling ponds (a/k/a "drying beds") located on a parcel of land that remained owned by Burlington that was close to the James Fabrics Plant (Drying Bed Property). In November 1989, James Fabrics Plant obtained approval from the South Carolina Department of Health and Environmental Control (SC DHEC) to transport the residues of the solidified dye waste from the drying beds to the local county landfill.

On January 20, 1982, the Annuity Board sold the 51.75 Acres back to Burlington. In March 1988, Highland Industries, Inc. (Highland) purchased the 51.75 Acres, which included the plant and the Western Ditch. Highland began operating a textile manufacturing plant. Burlington retained ownership of the Drying Bed Property, which was ultimately sold to a developer in 1990.

The SC DHEC began a Site Investigation in August 2016 of the Site as a result of a call from a concerned citizen about a wastewater treatment unit on the Drying Bed Property. To more fully characterize the Site, SC DHEC collected surface and subsurface soil samples from around the former drying beds, from the Highland property, and from nearby residential yards. Similarly, SC DHEC collected sediment samples from the Western Ditch and subsequent creek system.

In September, October, and November of 2016, SC DHEC collected additional soil samples, including samples along the Western Ditch. Polychlorinated Biphenyls (PCBs) (specifically, the tradename

Aroclors 1248 and 1254) were found at the highest concentrations near the Western Ditch of the 51.75 Acres, and at decreasing concentrations throughout the surface water drainage corridor. Sediment samples taken within the Western Ditch revealed a high degree of uniformity, with concentrations of PCBs in excess of 10,000 µg/kg (parts-per-billion, or "ppb") for each of the Aroclors. Contamination of PCBs on the 51.75 Acres was found to occur generally within 150 feet of the Western Ditch. Five sampling locations yielded PCB concentrations in excess of 10,000 ppb for both Aroclors, and one additional location yielded PCB concentrations greater than 1,000 ppb.

On April 25, 2017, the EPA signed an Action Memorandum for the Site to conduct a fund lead time-critical removal action that would address Tier I residential properties as well as remove playground equipment and underlying sand from Huckleberry Park. On July 13, 2017, the EPA signed a Ceiling Increase Action Memorandum to include Tier II residential properties as well. Tier I and Tier II were designations assigned to developed and occupied properties with sample results which exceeded ten times the Regional Management Level (RML) for a PCB Aroclor and exceeded the RML for a PCB Aroclor, respectively. On October 13, 2017, the EPA completed the removal actions on these properties.

On September 18, 2017, Highland signed an Administrative Order On Consent under which Highland agreed to perform a complete assessment and delineation of surface and subsurface soils and sediments to determine the presence of total PCBs above a preliminary "cleanup criteria concentration" of 1 ppm at the following locations: The northwest portion of the Highland Plant; the Western Ditch, Huckleberry Park; and the property located between the cut bank of the Western Ditch and the boundary marker on the residential properties located along the Western Ditch. The removal action is on-going.

On January 18, 2018, the Site was proposed to be included in the National Priority List (NPL). A Remedial Investigation and Feasibility Study (RI/FS) will be conducted to determine the extent of Site contamination to be followed by a Proposed Plan for the selection of the remediation of the Site and a Record of Decision describing the work to be conducted to clean up the Site.

### **INFORMATION REQUEST**

Under Section 104(e)(2) of CERCLA, 42 U.S.C. Section 9604(e)(2), the EPA has broad information gathering authority which allows the EPA to require persons to furnish information or documents relating to:

- (A) The identification, nature, and quantity of materials which have been or are generated, treated, stored, or disposed of at a vessel or facility or transported to a vessel or facility.
- (B) The nature or extent of a release or threatened release of a hazardous substance or pollutant or contaminant at or from a vessel or facility.

While the EPA seeks your cooperation in this investigation, compliance with the Information Request is required by law. Failure to respond fully and truthfully to the Information Request **within 14 days of** receipt of this letter, or to adequately justify such failure to respond, can result in enforcement action by the EPA pursuant to Section 104(e) of CERCLA.

If you have information about other parties who may have information which may assist the EPA in its investigation of the Site or may be responsible for the contamination at the Site, that information should be submitted within the time specified herein.

This Information Request is not subject to the approval requirements of the Paperwork Reduction Act of 1980, 44 U.S.C. Section 3501 et seq.

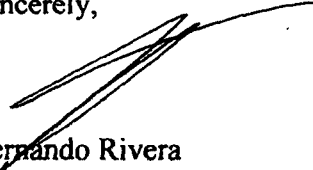
Instructions on how to respond to the questions in Enclosure C to this document are described in Enclosure A. Your response to this Information Request should be mailed to:

Fernando Rivera  
SECEB  
U.S. Environmental Protection Agency - Region 4  
Atlanta Federal Center  
61 Forsyth Street, S.W.  
Atlanta, Georgia 30303

Please give this matter your immediate attention. If you have any questions regarding this matter, you may consult with the EPA prior to the time specified above. Please direct any questions to Teresa Mann, Associate Regional Counsel, at (404) 562-9572.

We appreciate and look forward to your prompt response.

Sincerely,



Fernando Rivera  
Enforcement Project Manager  
Superfund Enforcement Section

Enclosures

Cc: Doug Arnold (with enclosures)  
Alston & Bird

ENCLOSURE A  
Burlington Industries Cheraw Superfund Site

INFORMATION REQUEST

Instructions

1. Please provide a separate narrative response to each and every Question and subpart of a Question set forth in this Information Request.
2. Precede each answer with the number of the Question to which it corresponds.
3. If information or documents not known or not available to you as of the date of submission of a response to this Information Request should later become known or available to you, *you must supplement your response* to the EPA. Moreover, should you find, at any time after the submission of your response that any portion of the submitted information is false or misrepresents the truth, you must notify the EPA of this fact as soon as possible *and provide the EPA with a corrected response*.
4. For each document produced in response to this Information Request indicate on the document, or in some other reasonable manner, the number of the Question to which it responds.
5. The information requested herein must be provided even though the Respondent may contend that it includes possibly confidential information or trade secrets. You may, if you desire, assert a confidentiality claim covering part or all of the information requested, pursuant to Sections 104(e)(7)(E) and (F) of CERCLA, 42 U.S.C. Sections 9604(e)(7)(E) and (F), Section by attaching to such information at the time it is submitted, a cover sheet, stamped or typed legend, or other suitable form of notice employing language such as "trade secret," or "proprietary," or "company confidential." Information covered by such a claim will be disclosed by the EPA only to the extent, and only by means, of the procedures set forth in statutes and regulation set forth above. **If no such claim accompanies the information when it is received by the EPA, it may be made available to the public by the EPA without further notice to you. You should read the above cited regulations carefully before asserting a business confidentiality claim, since certain categories of information are not properly the subject of such a claim.**

ENCLOSURE B  
Burlington Industries Cheraw Superfund Site

INFORMATION REQUEST

Definitions

The following definitions shall apply to the following words as they appear in this Enclosure C:

1. The term **"you"** shall mean BGF Industries, Inc.
2. The term **"person"** shall have the same definition as in Section 101(21) of CERCLA: an individual, firm, corporation, association, partnership, consortium, joint venture, commercial entity, United States Government, State, municipality, commission, political subdivision of a State, or any interstate body.
3. The terms the **"Site" or the "facility"** shall mean the Burlington Industries Cheraw Superfund Site, which includes the northwest portion of the property located at 650 Chesterfield County, South Carolina, the drainage ditch, which originates and is situated on that property and various residential properties fronting Robin Hood Drive and Pecan Drive and flows into an unnamed intermittent creek (Western Ditch), the roughly three and two tenths (3.2) mile-long in a drainage corridor beginning at the unnamed intermittent creek, which flows into wetlands and flows in an easterly direction to Wilson Branch, which flows in a northeasterly direction for about one half (0.5) mile to Huckleberry Branch, which then flows east/southeast for about one and one half (1.5) miles, and flows into the Great Pee Dee River, and various other properties situated along these waterways, including Huckleberry Park, and the areal extent of contamination.
4. The term **Respondent** shall mean BGF Industries, Inc.
5. The term **"hazardous substance"** shall have the same definition as that contained in Section 101(14) of CERCLA and includes any mixtures of such pollutants and contaminants with any other substances. Petroleum products mixed with pollutants and contaminants are also included in this definition.
6. The term **"identify"** means, with respect to *a natural person*, to set forth the person's name, present or last known business address and business telephone number, present or last known home address and home telephone number, and present or last known job title, position or business.
7. The term **"identify"** means, with respect to *a corporation, partnership, business trust or other association or business entity* (including a sole proprietorship), to set forth its full name, address, legal form (e.g., corporation, partnership, etc.), organization, if any, and a brief description of its business.

8. The term **"identify"** means, with respect to *a document*, to provide its customary business description, its date, its number, if any (invoice or purchase order number), the identity of the author, address or, addressee and/or recipient, and the substance or the subject matter.

9. The terms **"document"** and **"documents"** shall mean any object that records, stores, or presents information, and includes writings of any kind, formal or informal, whether or not wholly or partially in handwriting, including by way of illustration and not by way of limitation, any invoice, manifest, bill of lading, receipt, endorsement, check, bank draft, canceled check, deposit slip, withdrawal slip, order, correspondence, record book, minutes, memorandum of telephone and other conversations including meetings, agreement and the like, diary, calendar, desk pad, scrapbook, notebook, bulletin, circular, form, pamphlet, statement, journal, postcard, letter, telegram, telex, report, notice, message, analysis, comparison, graph, chart, interoffice or intraoffice communications, photostat or other copy of any documents, microfilm or other film record, any photograph, sound recording on any type of device, any punch card, disc or disc pack; any tape or other type of memory generally associated with computers and data processing (together with the programming instructions and other written material necessary to use such punch card, disc, or disc pack, tape or other type of memory and together with printouts of such punch card, disc, or disc pack, tape or other type of memory); and (a) every copy of each document which is not an exact duplicate of a document which it produces, (b) every copy which has any writing, figure or notation, annotation or the like on it, (c) drafts, (d) attachments to or enclosures with any document, and (e) every document referred to in any other document.

10. The terms **"and"** and **"or"** shall be construed either disjunctively or conjunctively as necessary to bring within the scope of this Information Request any information which might otherwise be construed to be outside its scope.

11. **All terms not defined** herein shall have their ordinary meaning, unless such terms are defined in CERCLA, in which case the statutory or regulatory definitions shall apply.



## ENCLOSURE C

### Burlington Industries Cheraw Superfund Site

#### INFORMATION REQUEST

##### Questions

1. Identify the person(s) answering these requests on behalf of BGF Industries, Inc. (Respondent).
2. For each person answering these questions on behalf of Respondent, provide:
  - a. full name;
  - b. title;
  - c. business address;
  - d. business telephone number; and
  - e. email address
3. For each question, identify all persons consulted in the preparation of the answer, provide:
  - a. full name;
  - b. title;
  - c. business address;
  - d. business telephone number; and
  - e. email address
4. If Respondent wishes to designate an individual for all future correspondence concerning this Site, including any legal notices, provide that individual's name, address, telephone number, email address and FAX number.
5. For each request, identify all documents consulted, examined, or referred to in preparation of the answer or that contain information responsive to the request and provide true and accurate copies of all such documents.
6. Is Respondent the successor to all liabilities, including those under the Comprehensive Environmental Response, Compensation and Liability Act, as amended, by the Superfund Amendments and Reauthorization Act (CERCLA), of Burlington Industries, Inc. (Burlington)?
7. If your answer to number 6 above is "no," respond fully to the following questions:
  - a. Describe in detail Respondent's past and current relationship with Burlington.
  - b. Describe in detail Respondent's past and current relationship with the facility operated by Burlington known as the James Fabric Plant located at 650

Chesterfield Highway, Cheraw, Chesterfield County, South Carolina (Burlington 650 Chesterfield Highway Facility).

- c. Did Respondent acquire ownership or an interest in the Burlington 650 Chesterfield Highway Facility? If so, what is the date on which Respondent acquired such ownership or interest?
  - d. If Respondent did not acquire ownership, please submit copies of all documents, including, but not limited to, records, memoranda, internal or external reports, or any correspondence that indicates the Burlington 650 Chesterfield Highway Facility was not included or intended to be included among assets acquired from Burlington.
  - e. If information specified above exists, but is not in Respondent's possession, please indicate where such information is located.
  - f. Identify the prior owners, if any, of the Burlington 650 Chesterfield Highway Facility.
  - g. Submit a copy of all documents relating to Respondent's purchase of the Burlington 650 Chesterfield Highway Facility.
  - h. Did Respondent sell or otherwise divest itself of any stock, assets, or other interest in Burlington or any other company which operated a manufacturing facility at Burlington 650 Chesterfield Highway Facility.
  - i. If Respondent acquired ownership or an interest in the Burlington 650 Chesterfield Highway Facility, fully describe the nature of the sale and/or transaction. State if the transaction consisted of a merger, consolidation, sale or transfer of assets, and submit all documents relating to such transaction, including all documents pertaining to any agreements, express or implied, for the purchasing corporation to assume the liabilities of the selling corporation.
  - j. Did Respondent retain the liabilities of the Burlington 650 Chesterfield Highway Facility for events prior to the sale?
8. If BGF Industries, Inc. has had any changes in company name, ownership or structure or has obtained an interest in or dissolved itself of an interest in any other corporation, subsidiary, division or other entity, identify such transaction. State if the transaction consisted of a merger, consolidation, sale or transfer of assets and submit all documents relating to such transactions included all documents pertaining to any agreements, express or implied, for the purchasing corporation to assume the liabilities of the selling corporation.
9. For each change in ownership described in response to question 8, describe the type of change, i.e. asset purchase, corporate merger or name change as well as the date of the change in ownership. For all corporate mergers identified, please provide a copy of the merger document.
10. List the complete legal names and assumed names of the corporations created, renamed, merged, or dissolved through such transactions and identify which such action applies to which corporation.

**11. Are there any persons, other than those you have already identified, who are or were associated with your company, who may be better able to answer any of these questions? If so, please provide those person names, current mailing addresses, and current telephone numbers.**

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**BURLINGTON HOLDINGS INC.**

# OFFERING MEMORANDUM

**CONFIDENTIAL**

the recipient agrees to keep permanently confidential the information or made available in connection with any business transaction and to abide by the procedures outlined by the recipient's parent or BGF as such procedures may be determined from time to time, unless prior written consent has been obtained from the Division. If the specific information is confidential, the recipient has to advise a responsible officer of Morgan Stanley of the receipt of such information not less than 24 hours prior written notice to the Division. The recipient agrees not to disclose to any person any confidential information of the Division that any such information has been received or negotiations are taking place concerning a business transaction, or any of the terms, conditions or other details of the business transaction, including the status thereof. The recipient agrees not to contact, either directly or indirectly, any person who is or may be connected to the Division to discuss the business transaction without the written consent of Morgan Stanley. The recipient agrees not to reproduce or distributed to others at any time any confidential information of Burlington or Morgan Stanley. It has been understood that this agreement is only and upon the express understanding that the information is confidential and for the purposes set forth above. Upon request, the recipient agrees to provide a written record of this agreement to Burlington and Morgan Stanley.

MORGAN SEYMOUR

# U.S. EPA REGION IV

## SDMS

### POOR LEGIBILITY

PORTIONS OF THIS DOCUMENT MAY BE  
DIFFICULT TO VIEW DUE TO THE QUALITY OF  
THE ORIGINAL.

TO MAKE THE DOCUMENT READABLE, TRY  
ONE OR MORE OF THE FOLLOWING:

From the Displays Settings in Windows Control Panel:

1. Set the Color Quality to the highest available: 24 bit or 36 bit.
2. Increase or decrease the Screen resolution.

From the Monitor/Display Controls:

1. For dark image page, increase the brightness and decrease the contrast.
2. For light image page, decrease the brightness and increase the contrast.

•• PLEASE CONTACT THE APPROPRIATE RECORDS CENTER TO VIEW THE MATERIAL ••

## OPERATIONS AND FACILITIES

### A. Overview

BGF, headquartered in Greensboro, North Carolina, manufactures its products in three plants in the South. In Greensboro, the Division also maintains one of the industry's most effective customer-focused R&D/technical service centers. Its national sales force has regional sales offices located in eight market areas across the United States. The Division services the majority of its West Coast business from its Los Angeles sales and distribution center. The Division is the only glass supplier to have a stocking point on the West Coast. In addition, BGF has its European sales and warehouse facility in Manchester, England. (See map on following page).

The Company's total annual production capacity is in excess of 110 million linear yards, utilizing approximately 800 varied-width looms, 84 twist-ply and texturing frames with almost 5000 spindles and eight finishing ranges. BGF weaves principally on air jet looms for plain weave for the electronics market and utilizes dornier rapier looms for heavy products manufactured for its other markets.

Capital investments totalled \$54 million over the past 10 years. As a result, the Division has one of the lowest cost structures in the industry. Major investments by BGF in its Quality Signals program, which is the Division's statistical quality and employee involvement program, have led to the Division's unrivaled position with respect to quality. Specifically, BGF has decreased its off-quality fabrics from approximately 5% in FY 1983 to less than 1% in FY 1987. (See Exhibit V).

### B. Manufacturing Facilities

#### 1. Altavista

BGF's largest manufacturing facility, in Altavista, Virginia, produces high-pressure laminate, electrical scrim, low-pressure reinforcement, tape, glass mat and general industrial fabrics. Also, all Kevlar<sup>®</sup> is woven at this plant.

Since 1983, BGF has invested over \$20 million in state-of-the-art equipment for this plant to ensure that BGF is the most efficient and highest quality weaver of glass fabrics. Specifically, the plant has been fitted with the most modern available twisting and texturing equipment to provide the plant with the flexibility necessary for manufacturing a variety of yarns for multiple markets. The plant is equipped with over 200 Ruti air jet looms, which are the industry's standard for quality. Most of the Ruti air jets produce a double width of fabric which significantly increases capacity. The Altavista plant also houses a strong quality assurance facility, staffed with three chemists with combined experience of 46 years in the industry. These chemists work primarily to ensure control and consistency of Altavista's finishing process and conformance to customers' and industry's standards.

#### 2. South Hill

BGF's second largest facility, in South Hill, Virginia, focuses exclusively on heavy weight glass fabrics for use by the electronics industry. All textured

MORGAN STANLEY







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#1

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 4  
ATLANTA FEDERAL CENTER  
61 FORSYTH STREET  
ATLANTA, GEORGIA 30303-8960

NOV 09 2016

INFORMATION REQUEST LETTER  
URGENT LEGAL MATTER - PROMPT REPLY REQUESTED  
SENT VIA UNITED PARCEL SERVICE

BGF Industries, Inc.  
Attn: Mr. Robby Dunnagan, President  
3802 Robert Porcher Way  
Greensboro, NC 27410

SUBJ: Request for Information Pursuant to Section 104 of CERCLA and Section 3007 of RCRA for the Burlington Cheraw Superfund Site ("the Site") in Cheraw, South Carolina

Dear Mr. Dunnagan:

The purpose of this letter is to request that BGF Industries, Inc. ("BGF") respond to the enclosed Information Request concerning the Burlington Cheraw Superfund Site (the Site). The U.S. Environmental Protection Agency is currently investigating the release or threatened release of hazardous substances, pollutants or contaminants, or hazardous wastes on or about the above-referenced Site. This investigation requires inquiry into the identification, nature, and quantity of materials generated, treated, stored, or disposed of at, or transported to, the Site and the nature or extent of a release or threatened release of a hazardous substance or pollutant or contaminant at or from the Site.

Pursuant to the authority of Section 104 of the Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA"), 42 U.S.C. § 9604, as amended, and Section 3007 of the Resource Conservation and Recovery Act ("RCRA"), 42 U.S.C. § 6927, you are hereby requested to respond to the Information Request set forth in Enclosure A hereto.

Compliance with the Information Request is mandatory. Failure to respond fully and truthfully to the Information Request within thirty (30) days of receipt of this letter, or to adequately justify such failure to respond, can result in enforcement action by the EPA pursuant to Section 104(e) of CERCLA, as amended, and/or Section 3008 of RCRA. Each of these statutes permits the EPA to seek the imposition of penalties of up to fifty three thousand nine hundred seven dollars (\$53,907) for each day of continued non-compliance. Please be further advised that the provision of false, fictitious, or fraudulent statements or representations to the Information Request may subject you to criminal penalties under 18 U.S.C. § 1001 or Section 3008(d) of RCRA, 42 U.S.C. § 6928(d).

This Information Request is not subject to the approval requirements of the Paperwork Reduction Act of 1980, 44 U.S.C. § 3501, et seq.

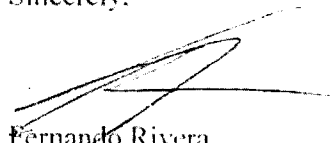
Your response to this Information Request should be mailed to:

Mr. Fernando Rivera  
SECEB  
Superfund Division  
U.S. Environmental Protection Agency, Region 4  
Atlanta Federal Center  
61 Forsyth Street, S.W.  
Atlanta, Georgia 30303-8909

Due to the seriousness of the problem at the Site and the legal ramifications of Highland's failure to respond properly, EPA strongly encourages you to give this matter your immediate attention and to respond to this Information Request within the time specified above. If you have any legal or technical questions relating to this Information Request, you may consult with the EPA prior to the time specified above. Please direct all legal questions to Mr. Gregory D. Luetscher, Associate Regional Counsel, at (404) 562-9677 or [luetscher.greg@epa.gov](mailto:luetscher.greg@epa.gov). Technical questions should be directed to myself at (404) 562-8875 or [rivera.fernando@epa.gov](mailto:rivera.fernando@epa.gov).

Thank you for your cooperation in this matter.

Sincerely,

A handwritten signature in dark ink, appearing to read 'Fernando Rivera', with a horizontal line drawn through it.

Fernando Rivera  
Enforcement Project Manager  
Superfund Division

Enclosures

Definitions and Instructions  
Information Request Questionnaire

cc: Doug S. Arnold Esq., Alston & Bird

## ENCLOSURE A

### INFORMATION REQUEST BGF Industries, Inc., Respondent

#### Instructions

1. Please provide a separate narrative response to each and every Question and subpart of a Question set forth in this Information Request.
2. Precede each answer with the number of the Question to which it corresponds.
3. If information or documents not known or not available to you as of the date of submission of a response to this Information Request should later become known or available to you, you must supplement your response to the EPA. Moreover, should you find, at any time after the submission of your response, that any portion of the submitted information is false or misrepresents the truth, you must notify the EPA of this fact as soon as possible and provide the EPA with a corrected response.
4. For each document produced in response to this Information Request, indicate on the document, or in some other reasonable manner, the number of the Question to which it responds.
5. The information requested herein must be provided even though you may contend that it includes possibly confidential information or trade secrets. You may, if you desire, assert a confidentiality claim covering part or all of the information requested, pursuant to Sections 104(e)(7)(E) and (F) of CERCLA, 42 U.S.C. §§ 9604(e)(7)(E) and (F), Section 3007(b) of RCRA, 42 U.S.C. § 6927(b), and 40 C.F.R. § 2.203(b), by attaching to such information at the time it is submitted, a cover sheet, stamped or typed legend, or other suitable form of notice employing language such as "trade secret," or "proprietary," or "company confidential." Information covered by such a claim will be disclosed by the EPA only to the extent, and only by means, of the procedures set forth in statutes and regulation set forth above. If no such claim accompanies the information when it is received by the EPA, it may be made available to the public by the EPA without further notice to you. You should read the above cited regulations carefully before asserting a business confidentiality claim, since certain categories of information are not properly the subject of such a claim.

### Definitions

The following definitions shall apply to the following words as they appear in this Enclosure A:

1. The term "you," "your," or "Respondent" shall mean BGF Industries, Inc., the addressee of this Request, the addressee's officers, managers, employees, contractors, trustees, partners, successors, assigns, and agents.
2. The term "person" shall have the same definition as in Section 101(21) of CERCLA, 42 U.S.C. § 9601(21): an individual, firm, corporation, association, partnership, consortium, joint venture, commercial entity, United States Government, State, municipality, commission, political subdivision of a State, or any interstate body.
3. The term the "Site" shall mean and include the property on or about the former Burlington Industries manufacturing plant, 650 Chesterfield Highway, Cheraw, Chesterfield County, South Carolina
4. The term "properties" shall mean parcels comprising the Site.
5. The term "hazardous substance" shall have the same definition as that contained in Section 101(14) of CERCLA, 42 U.S.C. § 9601(14), and includes any mixtures of such pollutants and contaminants with any other substances. Petroleum products mixed with pollutants and contaminants are also included within this definition.
6. The term "hazardous waste" shall have the same definition as that contained in Section 1004(5) of RCRA, 42 U.S.C. § 6903(5).
7. The term "solid waste" shall have the same definition as that contained in Section 1004(27) of RCRA, 42 U.S.C. § 6903(27).
8. The term "materials" shall mean all substances that have been generated, treated, stored, or disposed of or otherwise handled at or transported to the Site, including but not limited to, all hazardous substances, pollutants and contaminants, hazardous wastes and solid wastes, as defined above.
9. The term "hazardous material" shall mean all hazardous substances, pollutants or contaminants, and hazardous wastes, as defined above.
10. The term "non-hazardous material" shall mean all material as defined above, excluding hazardous substances, pollutants and contaminants, and hazardous waste.
11. The term "identify" means, with respect to a natural person, to set forth the person's name, present or last known business address and business telephone number, present or last known home address and home telephone number, and present or last known job title, position or business.
12. The term "identify" means, with respect to a corporation, partnership, business trust or other

association or business entity (including a sole proprietorship), to set forth its full name, address, legal form (e.g., corporation, partnership, etc.), organization, if any, and a brief description of its business.

13. The term "identify" means, with respect to a document, to provide its customary business description, its date, its number, if any (invoice or purchase order number), the identity of the author, addressor, addressee and/or recipient, and the substance or the subject matter.
14. The term "release" has the same definition as that contained in Section 101(22) of CERCLA, 42 U.S.C. § 9601(22), and includes any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment, including the abandonment or discharging of barrels, containers, and other closed receptacles containing any hazardous substance or pollutant or contaminant.
15. The terms "document" and "documents" shall mean any object that records, stores, or presents information, and includes writings of any kind, formal or informal, whether or not wholly or partially in handwriting, including by way of illustration and not by way of limitation, any invoice, manifest, bill of lading, receipt, endorsement, check, bank draft, canceled check, deposit slip, withdrawal slip, order, correspondence, record book, minutes, memorandum of telephone and other conversations including meetings, agreement and the like, diary, calendar, desk pad, scrapbook, notebook, bulletin, circular, form, pamphlet, statement, journal, postcard, letter, telegram, telex, report, notice, message, analysis, comparison, graph, chart, interoffice or intra office communications, photostat or other copy of any documents, microfilm or other film record, any photograph, sound recording on any type of device, any punch card, disc or disc pack; any tape or other type of memory generally associated with computers and data processing (together with the programming instructions and other written material necessary to use such punch card, disc, or disc pack, tape or other type of memory and together with printouts of such punch card, disc, or disc pack, tape or other type of memory); and (a) every copy of each document which is not an exact duplicate of a document which it produces, (b) every copy which has any writing, figure or notation, annotation or the like on it, (c) drafts, (d) attachments to or enclosures with any document, and (e) every document referred to in any other document.
16. The terms "and" and "or" shall be construed either disjunctively or conjunctively as necessary to bring within the scope of this Information Request any information which might otherwise be construed to be outside its scope.
17. The term "arrangement" means every separate contract or other agreement between two or more persons.
18. Words in the masculine shall be construed in the feminine, and vice versa, and words in the singular shall be construed in the plural, and vice versa, where appropriate in the context of a particular question or questions.

19. All terms not defined herein shall have their ordinary meaning, unless such terms are defined in CERCLA, RCRA, 40 C.F.R. Part 300, or 40 C.F.R. Parts 260-280, in which case the statutory or regulatory definitions shall apply.

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# ALSTON & BIRD

One Atlantic Center  
1201 West Peachtree Street  
Atlanta, GA 30309-3424  
404-881-7000 | Fax: 404-881-7777

Douglas S. Arnold

Direct Dial: 404-881-7637

Email: Doug.Arnold@alston.com

April 3, 2018

## VIA U.S. CERTIFIED MAIL

Mr. Fernando Rivera  
Enforcement Project Manager  
SECEB  
U.S. Environmental Protection Agency, Region 4  
Atlanta Federal Center  
61 Forsyth Street SW  
Atlanta, GA 30303

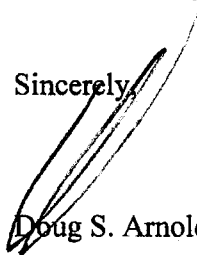
Re: Burlington Industries Cheraw Superfund Site (Cheraw, South Carolina)  
Section 104 Information Request

Dear Mr. Rivera:

This letter and its enclosures are submitted in response to EPA's Information Request dated March 21, 2018 pursuant to Section 104 of CERCLA for the Burlington Industries Cheraw Superfund Site (the "Site") on behalf of BGF Industries, Inc. ("BGF"). As to each of the enclosed documents, BGF hereby asserts a claim of business confidentiality pursuant to 42 U.S.C. § 9604(e)(7)(E) and (F), and 40 C.F.R. § 2.203(b).

If you have any questions regarding our client's responses, please do not hesitate to let me know.

Sincerely,



Doug S. Arnold

cc: Robby Dunnagan (via email)

**QUESTIONS**

- 1. Identify the person(s) answering these Questions on behalf of BGF Industries, Inc. (Respondent).**

Alston & Bird LLP  
1201 W. Peachtree Street  
Atlanta, Georgia 30309  
Phone: (404) 881-7637

- 2. For each person answering these questions on behalf of Respondent, provide:**

Doug S. Arnold, Partner  
Alston & Bird LLP  
1201 W. Peachtree Street  
Atlanta, Georgia 30309  
Phone: (404) 881-7637  
doug.arnold@alston.com

- 3. For each question, identify all persons consulted in the preparation of the answer, provide:**

Robby Dunnagan, President  
BGF Industries, Inc.  
3802 Robert Porcher Way  
Greensboro, North Carolina 27410

- 4. If Respondent wishes to designate an individual for all future correspondence concerning this Site, including any legal notices, provide that individual's name, address, telephone number, email address, and FAX number.**

Doug S. Arnold  
Alston & Bird LLP  
1201 W. Peachtree Street  
Atlanta, Georgia 30309  
Phone: (404) 881-7637  
Fax: (404) 881-7709  
doug.arnold@alston.com

- d. If Respondent did not acquire ownership, please submit copies of all documents, including, but not limited to, records, memoranda, internal or external reports, or any correspondence that indicates the Burlington 650 Chesterfield Highway Facility was not included or intended to be included among assets acquired from Burlington.**

Enclosed, please find a copy of the Bill of Sale for Porcher Textile's 1988 purchase of the former Glass Fabrics Division of Burlington Industries, Inc. (**Attachment B**). As reflected therein, this purchase did not include any acquisition of or interest in the Burlington 650 Chesterfield Highway Facility.

- e. If information specified above exists, but is not in Respondent's possession, please indicate where such information is located.**

N/A

- f. Identify the prior owners, if any, of the Burlington 650 Chesterfield Highway Facility.**

To the best of BGF's knowledge, the only prior owner of the Burlington 650 Chesterfield Highway Facility is Burlington Industries.

- g. Submit a copy of all documents relating to Respondent's purchase of the Burlington 650 Chesterfield Highway Facility.**

BGF did not purchase the Burlington 650 Chesterfield Highway Facility and therefore no purchase documents exist.

- h. Did Respondent sell or otherwise divest itself of any stock, assets, or other interest in Burlington or any other company which operated a manufacturing facility at Burlington 650 Chesterfield Highway Facility.**

BGF has never held any interest, stock, assets, or other interest in any company that owned or operated the Burlington 650 Chesterfield Highway Facility.

- i. If Respondent acquired ownership or an interest in the Burlington 650 Chesterfield Highway Facility, fully describe the nature of the sale and/or transaction. State if the transaction consisted of a merger, consolidation, sale or transfer of assets, and submit all documents relating to such transaction, including all documents pertaining to any agreements, express or implied, for the purchasing corporation to assume the liabilities of the selling corporation.**

N/A

5. **For each request, identify all documents consulted, examined, or referred to in the preparation of the answer or that contain information responsive to the request and provide true and accurate copies of all such documents.**

With the exception of those transactional documents noted below, no specific, additional documents have been examined in the preparation of these Responses.

6. **Is Respondent the successor to all liabilities, including those under the Comprehensive Environmental Response, Compensation and Liability Act, as amended, by the Superfund Amendments and Reauthorization Act (CERCLA), of Burlington Industries, Inc. (Burlington)?**

No. BGF is not the successor to all liabilities of Burlington Industries, Inc.

7. **If your answer to number 6 above is "no," respond fully to the following questions:**

- a. **Describe in detail Respondent's past and current relationship with Burlington.**

In 1988, Porcher Textile, S.A. of France purchased the former Glass Fabrics Division of Burlington Industries, Inc. This business consisted of certain operations in Altavista, Virginia, South Hill, Virginia, and Cheraw, South Carolina, as well as administrative and research and development personnel in Greensboro, North Carolina. As reflected in the enclosed legal description of the South Carolina Pee Dee Facility (**Attachment A**), the facility owned and operated by the former Glass Fabrics Division of Burlington Industries, Inc. is not associated with, nor in proximity to, the Site. The business purchased by Porcher was subsequently incorporated and renamed BGF Industries, Inc.

- b. **Describe in detail Respondent's past and current relationship with the facility operated by Burlington known as the James Fabric Plant located at 650 Chesterfield Highway, Cheraw, Chesterfield County, South Carolina (Burlington 650 Chesterfield Highway Facility).**

There is no relationship between BGF and the Burlington 650 Chesterfield Highway Facility.

- c. **Did Respondent acquire ownership or an interest in the Burlington 650 Chesterfield Highway Facility? If so, what is the date on which Respondent acquired such ownership or interest?**

BGF did not acquire ownership or any interest in the Burlington 650 Chesterfield Highway Facility.

# WILLIAMS MULLEN

Ethan R. Ware, Esquire  
Direct Dial: 803.567.4610  
eware@williamsmullen.com

January 20, 2017

**VIA Electronic and Certified Mail**  
**Return Receipt Requested**

Fernando Rivera  
Enforcement Project Manager, SECEB  
Superfund Division  
United States Environmental Protection Agency  
61 Forsyth Street, SW  
Atlanta, Georgia 30303-8909  
Rivera.Fernando@epa.gov

Re: Burlington Cheraw Superfund Site  
BGF Industries, Inc.

Dear Mr. Rivera:

We are writing to request the United States Environmental Protection Agency (EPA), Region 4, expand its inquiry into BGF Industries, Inc. ("BGF") as a potential responsible party (PRP) to the Burlington Cheraw Superfund Site ("Burlington Site"). In sum, we believe BGF's response to Section 104/Section 3007 Request for Information ("BGF Request") may not explain BGF's relationship to the release of PCBs onsite.

By letter dated November 9, 2016, EPA served the BGF Request seeking information on the release or threat of release of PCB at the Burlington Site and BGF's relationship to the Burlington Site. The November 30, 2016, response by BGF denies the company "has [any] known connection to the contamination associated with the Site" and "at no time conducted business operations or related activities at the [Burlington Site]." BGF Letter (November 30, 2016). EPA specifically asked BGF to "identify businesses with which it is related" that have used the property to "dispose, discard, deposit any materials or waste items"; BGF did not identify any business in its response related to the Burlington Site.

The BGF Response does not disclose BGF's corporate relationship to Burlington Industries, Inc., owner of the plant at the time PCB were used in textiles:

1. Documents provided to EPA and the State of South Carolina document BGF purchased and today continues to operate the "Burlington Glass Fabrics Division" of Burlington Industries, Inc. as a successor-in-interest to Burlington Industries, Inc. [Attachment A



- (Purchase Agreement Only)], and Burlington Glass Fabrics Division operated at the Burlington Site when PCBs were disposed there prior to their use being banned by EPA January 1, 1982;
2. BGF entered an Assumption Agreement with Burlington Industries, Inc., wherein it assumed the liability for Burlington Industries, Inc. for disposal of PCB (along with other toxic wastes) prior to 1988 [Attachment B]<sup>1</sup>;
  3. Highland notified BGF by letter dated October 4, 2016, of BGF's potential liability as a successor to Burlington's Glass Fabrics Division and owner/operator at the time of the release of PCB, providing BGF with correspondence about PCB disposal at Burlington Site and documenting the contamination there [Attachment C];
  4. BGF's legal counsel for the 104(e) BGF Response confirmed receipt of the October 4, 2016, letter and attachments by letter to Highland on October 6, 2016 [Attachment D];
  5. Highland also provided BGF with documentation on BGF's ownership to the Burlington Site as a successor to Burlington by a letter to BGF's lawyer on December 2, 2016 [Attachment E]; and
  6. It is not disputed Burlington Glass Fabrics Division operated and disposed of PCBs onsite.

Therefore, a claim by BGF it has "no known connection" to the Burlington Site, did "[not] conduct business [there]," and is not related to any business disposing of PCB at the Burlington Site is inconsistent with the record and misleading.

BGF is under a duty to accurately and completely answer the BGF Request and to supplement its responses as new information becomes available. *United States vs. Ponderosa Fibres of America, Inc.*, 178 F. Supp. 2d 157 (N.D.N.Y. 2001); *U.S. vs. Crown Roll Leaf, Inc.*, 888 F.2d 1382 (3d Cir. 1989)(district court imposing a fine against the defendant for failure to respond to 104 letter seeking information about predecessor's generation, handling, and disposal of hazardous waste at four sites)(emphasis added). This duty is reiterated in paragraph 3 of "Instructions" to the BGF Request. EPA enforcement of this requirement is necessary to the success of CERCLA. See *EPA's Transmittal of Guidance on Issuing CERCLA Section 104(e)(2) Information Requests to Federal Agencies at Privately-owned Superfund Sites* ("Demanding timely, complete and accurate responses to such requests from all PRPs is critical to EPA's enforcement fairness policy"); citing *EPA's Interim CERCLA Settlement Policy* (OSWER Directive Number 9835.0)(Dec. 5, 1984). A fair review of BGF corporate records suggests BGF did not disclose its relationship to the site as a successor, owner, or operator of which it had notice.

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<sup>1</sup> In order to better understand BGF's relationship to an assumption of liability for the Burlington Site, BGF corporate history must be considered. The enclosed documents and the documents provided to EPA in November of 2016 may assist in that regard.

January 20, 2017  
Page 3

To fulfill EPA's policy of "enforcement fairness", we believe it is appropriate for EPA to request BGF supplement its responses after carefully reviewing documents within BGF possession and explain why the information was not included in the prior BGF Response. It would also be appropriate for EPA to request BGF explain its relationship to Burlington Industries, Inc., Burlington Holdings, Inc., Burlington Glass Fabrics Company, Porcher Industries, and International Textile Group, Inc. (ITG), all of which are PRPs to the Burlington Site.

Please do not hesitate to call if you have any questions. We appreciate your efforts to fully investigate corporate relationships to the Burlington Site.

Sincerely,  
Williams Mullen

A handwritten signature in black ink, appearing to read "Ethan", written in a cursive style.

Ethan R. Ware

cc: Gregory D. Luetscher, Esq.

ERW/jt

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**Fields, Annette**

---

**From:** Rivera, Fernando  
**Sent:** Wednesday, November 09, 2016 5:15 PM  
**To:** Luetscher, Greg; Huyser, Matthew  
**Cc:** Fields, Annette  
**Subject:** Burlington  
**Attachments:** signed 104e to Highland Nov 2016.pdf; signed 104e to BGF Nov 2016.pdf

Attached are copies of the letters sent today to Highland and BGF.

Fernando Rivera  
Enforcement Project Manager  
Superfund Enforcement Section





**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**

REGION 4  
ATLANTA FEDERAL CENTER  
61 FORSYTH STREET  
ATLANTA, GEORGIA 30303-8960

NOV 09 2016

**INFORMATION REQUEST LETTER**  
**URGENT LEGAL MATTER - PROMPT REPLY REQUESTED**  
**SENT VIA UNITED PARCEL SERVICE**

BGF Industries, Inc.  
Attn: Mr. Robby Dunnagan, President  
3802 Robert Porcher Way  
Greensboro, NC 27410

SUBJ: Request for Information Pursuant to Section 104 of CERCLA and Section 3007 of RCRA for the Burlington Cheraw Superfund Site ("the Site") in Cheraw, South Carolina

Dear Mr. Dunnagan:

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Pursuant to the authority of Section 104 of the Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA"), 42 U.S.C. § 9604, as amended, and Section 3007 of the Resource Conservation and Recovery Act ("RCRA"), 42 U.S.C. § 6927, you are hereby requested to respond to the Information Request set forth in Enclosure A hereto.

Compliance with the Information Request is mandatory. Failure to respond fully and truthfully to the Information Request within thirty (30) days of receipt of this letter, or to adequately justify such failure to respond, can result in enforcement action by the EPA pursuant to Section 104(e) of CERCLA, as amended, and/or Section 3008 of RCRA. Each of these statutes permits the EPA to seek the imposition of penalties of up to fifty three thousand nine hundred seven dollars (\$53,907) for each day of continued non-compliance. Please be further advised that the provision of false, fictitious, or fraudulent statements or representations to the Information Request may subject you to criminal penalties under 18 U.S.C. § 1001 or Section 3008(d) of RCRA, 42 U.S.C. § 6928(d).

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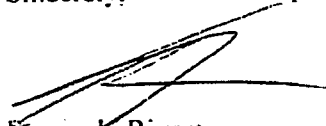
Your response to this Information Request should be mailed to:

Mr. Fernando Rivera  
SECEB  
Superfund Division  
U.S. Environmental Protection Agency, Region 4  
Atlanta Federal Center  
61 Forsyth Street, S.W.  
Atlanta, Georgia 30303-8909

Due to the seriousness of the problem at the Site and the legal ramifications of Highland's failure to respond properly, EPA strongly encourages you to give this matter your immediate attention and to respond to this Information Request within the time specified above. If you have any legal or technical questions relating to this Information Request, you may consult with the EPA prior to the time specified above. Please direct all legal questions to Mr. Gregory D. Luetscher, Associate Regional Counsel, at (404) 562-9677 or [luetscher.greg@epa.gov](mailto:luetscher.greg@epa.gov). Technical questions should be directed to myself at (404) 562-8875 or [rivera.fernando@epa.gov](mailto:rivera.fernando@epa.gov).

Thank you for your cooperation in this matter.

Sincerely,



Fernando Rivera  
Enforcement Project Manager  
Superfund Division

Enclosures

Definitions and Instructions  
Information Request Questionnaire

cc: Doug S. Arnold Esq., Alston & Bird

## ENCLOSURE A

### INFORMATION REQUEST BGF Industries, Inc., Respondent

#### Instructions

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3. If information or documents not known or not available to you as of the date of submission of a response to this Information Request should later become known or available to you, you must supplement your response to the EPA. Moreover, should you find, at any time after the submission of your response, that any portion of the submitted information is false or misrepresents the truth, you must notify the EPA of this fact as soon as possible and provide the EPA with a corrected response.
4. For each document produced in response to this Information Request, indicate on the document, or in some other reasonable manner, the number of the Question to which it responds.
5. The information requested herein must be provided even though you may contend that it includes possibly confidential information or trade secrets. You may, if you desire, assert a confidentiality claim covering part or all of the information requested, pursuant to Sections 104(e)(7)(E) and (F) of CERCLA, 42 U.S.C. §§ 9604(e)(7)(E) and (F), Section 3007(b) of RCRA, 42 U.S.C. § 6927(b), and 40 C.F.R. § 2.203(b), by attaching to such information at the time it is submitted, a cover sheet, stamped or typed legend, or other suitable form of notice employing language such as "trade secret," or "proprietary," or "company confidential." Information covered by such a claim will be disclosed by the EPA only to the extent, and only by means, of the procedures set forth in statutes and regulation set forth above. If no such claim accompanies the information when it is received by the EPA, it may be made available to the public by the EPA without further notice to you. You should read the above cited regulations carefully before asserting a business confidentiality claim, since certain categories of information are not properly the subject of such a claim.

### Definitions

The following definitions shall apply to the following words as they appear in this Enclosure A:

1. The term "you," "your," or "Respondent" shall mean BGF Industries, Inc., the addressee of this Request, the addressee's officers, managers, employees, contractors, trustees, partners, successors, assigns, and agents.
2. The term "person" shall have the same definition as in Section 101(21) of CERCLA, 42 U.S.C. § 9601(21): an individual, firm, corporation, association, partnership, consortium, joint venture, commercial entity, United States Government, State, municipality, commission, political subdivision of a State, or any interstate body.
3. The term the "Site" shall mean and include the property on or about the former Burlington Industries manufacturing plant, 650 Chesterfield Highway, Cheraw, Chesterfield County, South Carolina
4. The term "properties" shall mean parcels comprising the Site.
5. The term "hazardous substance" shall have the same definition as that contained in Section 101(14) of CERCLA, 42 U.S.C. § 9601(14), and includes any mixtures of such pollutants and contaminants with any other substances. Petroleum products mixed with pollutants and contaminants are also included within this definition.
6. The term "hazardous waste" shall have the same definition as that contained in Section 1004(5) of RCRA, 42 U.S.C. § 6903(5).
7. The term "solid waste" shall have the same definition as that contained in Section 1004(27) of RCRA, 42 U.S.C. § 6903(27).
8. The term "materials" shall mean all substances that have been generated, treated, stored, or disposed of or otherwise handled at or transported to the Site, including but not limited to, all hazardous substances, pollutants and contaminants, hazardous wastes and solid wastes, as defined above.
9. The term "hazardous material" shall mean all hazardous substances, pollutants or contaminants, and hazardous wastes, as defined above.
10. The term "non-hazardous material" shall mean all material as defined above, excluding hazardous substances, pollutants and contaminants, and hazardous waste.
11. The term "identify" means, with respect to a natural person, to set forth the person's name, present or last known business address and business telephone number, present or last known home address and home telephone number, and present or last known job title, position or business.
12. The term "identify" means, with respect to a corporation, partnership, business trust or other

association or business entity (including a sole proprietorship), to set forth its full name, address, legal form (e.g., corporation, partnership, etc.), organization, if any, and a brief description of its business.

13. The term "identify" means, with respect to a document, to provide its customary business description, its date, its number, if any (invoice or purchase order number), the identity of the author, addressor, addressee and/or recipient, and the substance or the subject matter.
14. The term "release" has the same definition as that contained in Section 101(22) of CERCLA, 42 U.S.C. § 9601(22), and includes any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment, including the abandonment or discharging of barrels, containers, and other closed receptacles containing any hazardous substance or pollutant or contaminant.
15. The terms "document" and "documents" shall mean any object that records, stores, or presents information, and includes writings of any kind, formal or informal, whether or not wholly or partially in handwriting, including by way of illustration and not by way of limitation, any invoice, manifest, bill of lading, receipt, endorsement, check, bank draft, canceled check, deposit slip, withdrawal slip, order, correspondence, record book, minutes, memorandum of telephone and other conversations including meetings, agreement and the like, diary, calendar, desk pad, scrapbook, notebook, bulletin, circular, form, pamphlet, statement, journal, postcard, letter, telegram, telex, report, notice, message, analysis, comparison, graph, chart, interoffice or intra office communications, photostat or other copy of any documents, microfilm or other film record, any photograph, sound recording on any type of device, any punch card, disc or disc pack; any tape or other type of memory generally associated with computers and data processing (together with the programming instructions and other written material necessary to use such punch card, disc, or disc pack, tape or other type of memory and together with printouts of such punch card, disc, or disc pack, tape or other type of memory); and (a) every copy of each document which is not an exact duplicate of a document which it produces, (b) every copy which has any writing, figure or notation, annotation or the like on it, (c) drafts, (d) attachments to or enclosures with any document, and (e) every document referred to in any other document.
16. The terms "and" and "or" shall be construed either disjunctively or conjunctively as necessary to bring within the scope of this Information Request any information which might otherwise be construed to be outside its scope.
17. The term "arrangement" means every separate contract or other agreement between two or more persons.
18. Words in the masculine shall be construed in the feminine, and vice versa, and words in the singular shall be construed in the plural, and vice versa, where appropriate in the context of a particular question or questions.

19. All terms not defined herein shall have their ordinary meaning, unless such terms are defined in CERCLA, RCRA, 40 C.F.R. Part 300, or 40 C.F.R. Parts 260-280, in which case the statutory or regulatory definitions shall apply.

## QUESTIONS

BGF Industries, Inc., Respondent

(Please answer the questions for the properties identified at the beginning of the letter)

1. Identify the person(s) answering these Questions on behalf of Respondent.
2. For each and every Question contained herein, identify all persons consulted in the preparation of the answer.
3. For each and every Question contained herein, identify all documents consulted, examined, or referred to in the preparation of the answer or that contain information responsive to the Question and provide true and accurate copies of all such documents.
4. Generally describe Respondent's overall connection to the contamination associated with the Site.
5. Please explain when the property was owned or leased by you and identify the date you took possession and/or ownership of the Site property and the date you surrendered title and/or possession.
6. Please identify when you initiated and when you ended business operations and/or related activities at the property.
7. Were there operating businesses present on the Site property at the time of your purchase or lease of them? Please identify or provide any information or documents you may have on any operations that occurred at the Site property.
8. Please describe the environmental condition of the property on or about the date you took possession/title and when you left. Specifically, please explain whether you took possession of the property after the disposal or placement of the hazardous materials on, in, or at the property; further, please provide all relevant facts upon which you base your answer.
9. Please identify and describe any business or other activity that had been located upon the property prior to your ownership or possession of the property, including but not limited to:
  - a. The name of business or activity,
  - b. The nature of its operations,
  - c. The approximate dates of operation, and
  - d. Any significant modifications that were made to the property with respect to structures, improvements, or land use.



10. Identify all businesses or customers that have used the property to dispose, discard or deposit any materials or waste items.
11. Please provide a description of your operations at the facility.
12. Please describe the physical characteristics of the Site during your operations, including, but not limited to, surface structures (e.g. buildings, tanks, etc.) and subsurface structures (e.g. piping, sumps, etc.). Include features which were operational, nonoperational, and any features that were removed.
13. Please identify and provide any maps, drawings, plans or other documentation which would show the location and function of the historical physical characteristics of the Site.
14. Did any soil or groundwater testing occurred on the Site property? If so, what were the results of that testing?
15. Describe all leaks, spills or releases or threats of releases of any kind into the environment of any hazardous materials that have occurred or may occur at or from the Site, including but not limited to:
  - a. When such releases occurred or may have occurred,
  - b. How the releases occurred or may have occurred,
  - c. When hazardous materials were released or may have been released,
  - d. What amount of each such hazardous material was so released
  - e. Where such releases occurred or may have occurred,
  - f. Any and all activities undertaken in response to each such release or threatened release
  - g. Any and all investigations of the circumstances, nature, extent, or location of each such release or threatened release including, the results of any soil, water (ground or surface), or air testing that was undertaken, and
  - h. All persons with information relating to subpart a through g of this Question 15.
16. Did Respondent perform any environmental assessments of Site property prior to acquiring the Site property?
17. Please explain your corporate relationship, if any, with TK Holdings, Inc.
18. Please explain your corporate relationship, if any, with Highland Industries, Inc.
17. Identify all persons who may have knowledge, information, or documents about the materials disposed or buried on the property.
18. Do you have reason to believe that there may be persons able to provide a more detailed or complete response to any Question contained herein or who may be able to provide

additional responsive documents, identify such persons and the additional information or documents that they may have.

19. For each and every Question contained herein, if any information or documents responsive to this Information Request are not in your possession, custody, or control, identify the persons from whom such information or documents may be obtained.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 4  
ATLANTA FEDERAL CENTER  
61 FORSYTH STREET  
ATLANTA, GEORGIA 30303-8960

NOV 9 9 2013

INFORMATION REQUEST LETTER  
URGENT LEGAL MATTER - PROMPT REPLY REQUESTED  
SENT VIA UNITED PARCEL SERVICE

Highland Industries, Inc.  
Attn: Mr. David A. Jackson, President  
1350 Bridgeport Drive  
Suite 1  
Kernersville, NC 27284

SUBJ: Request for Information Pursuant to Section 104 of CERCLA and Section 3007 of RCRA for the Burlington Cheraw Superfund Site ("the Site") in Cheraw, South Carolina

Dear Mr. Jackson:

The purpose of this letter is to request that Highland Industries, Inc. ("Highland") respond to the enclosed Information Request concerning the Burlington Cheraw Superfund Site (the Site). The U.S. Environmental Protection Agency is currently investigating the release or threatened release of hazardous substances, pollutants or contaminants, or hazardous wastes on or about the above-referenced Site. This investigation requires inquiry into the identification, nature, and quantity of materials generated, treated, stored, or disposed of at, or transported to, the Site and the nature or extent of a release or threatened release of a hazardous substance or pollutant or contaminant at or from the Site.

Pursuant to the authority of Section 104 of the Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA"), 42 U.S.C. § 9604, as amended, and Section 3007 of the Resource Conservation and Recovery Act ("RCRA"), 42 U.S.C. § 6927, you are hereby requested to respond to the Information Request set forth in Enclosure A hereto.

Compliance with the Information Request is mandatory. Failure to respond fully and truthfully to the Information Request within thirty (30) days of receipt of this letter, or to adequately justify such failure to respond, can result in enforcement action by the EPA pursuant to Section 104(e) of CERCLA, as amended, and/or Section 3008 of RCRA. Each of these statutes permits the EPA to seek the imposition of penalties of up to fifty three thousand nine hundred seven dollars (\$53,907) for each day of continued non-compliance. Please be further advised that the provision of false, fictitious, or fraudulent statements or representations to the Information Request may subject you to criminal penalties under 18 U.S.C. § 1001 or Section 3008(d) of RCRA, 42 U.S.C. § 6928(d).

This Information Request is not subject to the approval requirements of the Paperwork Reduction Act of 1980, 44 U.S.C. § 3501, et seq.

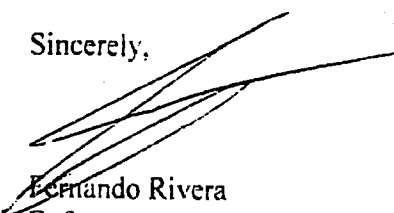
Your response to this Information Request should be mailed to:

Mr. Fernando Rivera  
SECEB  
Superfund Division  
U.S. Environmental Protection Agency, Region 4  
Atlanta Federal Center  
61 Forsyth Street, S.W.  
Atlanta, Georgia 30303-8909

Due to the seriousness of the problem at the Site and the legal ramifications of Highland's failure to respond properly, EPA strongly encourages you to give this matter your immediate attention and to respond to this Information Request within the time specified above. If you have any legal or technical questions relating to this Information Request, you may consult with the EPA prior to the time specified above. Please direct all legal questions to Mr. Gregory D. Luetscher, Associate Regional Counsel, at (404) 562-9677 or [luetscher.greg@epa.gov](mailto:luetscher.greg@epa.gov). Technical questions should be directed to myself at (404) 562-8875 or [rivera.fernando@epa.gov](mailto:rivera.fernando@epa.gov).

Thank you for your cooperation in this matter.

Sincerely,



Fernando Rivera  
Enforcement Project Manager  
Superfund Division

Enclosures

Definitions and Instructions  
Information Request Questionnaire

cc: Ethan R. Ware Esq., Williams Mullen

## ENCLOSURE A

### INFORMATION REQUEST Highland Industries, Inc., Respondent

#### Instructions

1. Please provide a separate narrative response to each and every Question and subpart of a Question set forth in this Information Request.
2. Precede each answer with the number of the Question to which it corresponds.
3. If information or documents not known or not available to you as of the date of submission of a response to this Information Request should later become known or available to you, you must supplement your response to the EPA. Moreover, should you find, at any time after the submission of your response, that any portion of the submitted information is false or misrepresents the truth, you must notify the EPA of this fact as soon as possible and provide the EPA with a corrected response.
4. For each document produced in response to this Information Request, indicate on the document, or in some other reasonable manner, the number of the Question to which it responds.
5. The information requested herein must be provided even though you may contend that it includes possibly confidential information or trade secrets. You may, if you desire, assert a confidentiality claim covering part or all of the information requested, pursuant to Sections 104(e)(7)(E) and (F) of CERCLA, 42 U.S.C. §§ 9604(e)(7)(E) and (F), Section 3007(b) of RCRA, 42 U.S.C. § 6927(b), and 40 C.F.R. § 2.203(b), by attaching to such information at the time it is submitted, a cover sheet, stamped or typed legend, or other suitable form of notice employing language such as "trade secret," or "proprietary," or "company confidential." Information covered by such a claim will be disclosed by the EPA only to the extent, and only by means, of the procedures set forth in statutes and regulation set forth above. If no such claim accompanies the information when it is received by the EPA, it may be made available to the public by the EPA without further notice to you. You should read the above cited regulations carefully before asserting a business confidentiality claim, since certain categories of information are not properly the subject of such a claim.

### Definitions

The following definitions shall apply to the following words as they appear in this Enclosure A:

1. The term "you," "your," or "Respondent" shall mean Highland Industries, Inc., the addressee of this Request, the addressee's officers, managers, employees, contractors, trustees, partners, successors, assigns, and agents.
2. The term "person" shall have the same definition as in Section 101(21) of CERCLA, 42 U.S.C. § 9601(21): an individual, firm, corporation, association, partnership, consortium, joint venture, commercial entity, United States Government, State, municipality, commission, political subdivision of a State, or any interstate body.
3. The term the "Site" shall mean and include the property on or about the former Burlington Industries manufacturing plant, 650 Chesterfield Highway, Cheraw, Chesterfield County, South Carolina
4. The term "properties" shall mean parcels comprising the Site.
5. The term "hazardous substance" shall have the same definition as that contained in Section 101(14) of CERCLA, 42 U.S.C. § 9601(14), and includes any mixtures of such pollutants and contaminants with any other substances. Petroleum products mixed with pollutants and contaminants are also included within this definition.
6. The term "hazardous waste" shall have the same definition as that contained in Section 1004(5) of RCRA, 42 U.S.C. § 6903(5).
7. The term "solid waste" shall have the same definition as that contained in Section 1004(27) of RCRA, 42 U.S.C. § 6903(27).
8. The term "materials" shall mean all substances that have been generated, treated, stored, or disposed of or otherwise handled at or transported to the Site, including but not limited to, all hazardous substances, pollutants and contaminants, hazardous wastes and solid wastes, as defined above.
9. The term "hazardous material" shall mean all hazardous substances, pollutants or contaminants, and hazardous wastes, as defined above.
10. The term "non-hazardous material" shall mean all material as defined above, excluding hazardous substances, pollutants and contaminants, and hazardous waste.
11. The term "identify" means, with respect to a natural person, to set forth the person's name, present or last known business address and business telephone number, present or last known home address and home telephone number, and present or last known job title, position or business.
12. The term "identify" means, with respect to a corporation, partnership, business trust or other

association or business entity (including a sole proprietorship), to set forth its full name, address, legal form (e.g., corporation, partnership, etc.), organization, if any, and a brief description of its business.

13. The term "identify" means, with respect to a document, to provide its customary business description, its date, its number, if any (invoice or purchase order number), the identity of the author, addressor, addressee and/or recipient, and the substance or the subject matter.
14. The term "release" has the same definition as that contained in Section 101(22) of CERCLA, 42 U.S.C. § 9601(22), and includes any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment, including the abandonment or discharging of barrels, containers, and other closed receptacles containing any hazardous substance or pollutant or contaminant.
15. The terms "document" and "documents" shall mean any object that records, stores, or presents information, and includes writings of any kind, formal or informal, whether or not wholly or partially in handwriting, including by way of illustration and not by way of limitation, any invoice, manifest, bill of lading, receipt, endorsement, check, bank draft, canceled check, deposit slip, withdrawal slip, order, correspondence, record book, minutes, memorandum of telephone and other conversations including meetings, agreement and the like, diary, calendar, desk pad, scrapbook, notebook, bulletin, circular, form, pamphlet, statement, journal, postcard, letter, telegram, telex, report, notice, message, analysis, comparison, graph, chart, interoffice or intra office communications, photostat or other copy of any documents, microfilm or other film record, any photograph, sound recording on any type of device, any punch card, disc or disc pack; any tape or other type of memory generally associated with computers and data processing (together with the programming instructions and other written material necessary to use such punch card, disc, or disc pack, tape or other type of memory and together with printouts of such punch card, disc, or disc pack, tape or other type of memory); and (a) every copy of each document which is not an exact duplicate of a document which it produces, (b) every copy which has any writing, figure or notation, annotation or the like on it, (c) drafts, (d) attachments to or enclosures with any document, and (e) every document referred to in any other document.
16. The terms "and" and "or" shall be construed either disjunctively or conjunctively as necessary to bring within the scope of this Information Request any information which might otherwise be construed to be outside its scope.
17. The term "arrangement" means every separate contract or other agreement between two or more persons.
18. Words in the masculine shall be construed in the feminine, and vice versa, and words in the singular shall be construed in the plural, and vice versa, where appropriate in the context of a particular question or questions.

19. All terms not defined herein shall have their ordinary meaning, unless such terms are defined in CERCLA, RCRA, 40 C.F.R. Part 300, or 40 C.F.R. Parts 260-280, in which case the statutory or regulatory definitions shall apply.



## QUESTIONS

Highland Industries, Inc., Respondent

(Please answer the questions for the properties identified at the beginning of the letter)

1. Identify the person(s) answering these Questions on behalf of Respondent.
2. For each and every Question contained herein, identify all persons consulted in the preparation of the answer.
3. For each and every Question contained herein, identify all documents consulted, examined, or referred to in the preparation of the answer or that contain information responsive to the Question and provide true and accurate copies of all such documents.
4. Generally describe Respondent's overall connection to the contamination associated with the Site.
5. Please explain whether the property is owned or leased by you and identify the date you took possession and/or ownership of the Site property.
6. Please identify when you initiated business operations and/or related preparatory activities at the property.
7. Were there operating businesses present on the Site property at the time of your purchase or lease of them? Please identify or provide any information or documents you may have on any operations that occurred at the Site property.
8. Please describe the environmental condition of the property on or about the date you took possession. Specifically, please explain whether you took possession of the property after the disposal or placement of the hazardous materials on, in, or at the property; further, please provide all relevant facts upon which you base your answer.
9. Please identify and describe any business or other activity that had been located upon the property prior to your ownership or possession of the property, including but not limited to:
  - a. The name of business or activity.
  - b. The nature of its operations,
  - c. The approximate dates of operation, and
  - d. Any significant modifications that were made to the property with respect to structures, improvements, or land use.
10. Identify all businesses or customers that have used the property to dispose, discard or deposit any materials or waste items.
11. Please provide a description of your current and past operations at the facility.

12. Please describe the physical characteristics of the Site, including, but not limited to, surface structures (e.g. buildings, tanks, etc.) and subsurface structures (e.g. piping, sumps, etc.). Include features which are operational, nonoperational, and any features that were known to have been removed.
13. Please identify or provide any maps, drawings, plans or other documentation which would show the location and function of the current and/or historical physical characteristics of the Site.
14. Has any past soil or groundwater testing occurred on the Site property? If so, what were the results of that testing?
15. Describe all leaks, spills or releases or threats of releases of any kind into the environment of any hazardous materials that have occurred or may occur at or from the Site, including but not limited to:
  - a. When such releases occurred or may have occurred.
  - b. How the releases occurred or may have occurred,
  - c. When hazardous materials were released or may have been released,
  - d. What amount of each such hazardous material was so released
  - e. Where such releases occurred or may occur
  - f. Any and all activities undertaken in response to each such release or threatened release
  - g. Any and all investigations of the circumstances, nature, extent, or location of each such release or threatened release including, the results of any soil, water (ground or surface), or air testing that was undertaken, and
  - h. All persons with information relating to subpart a through g of this Question 15.
16. Did Respondent perform any environmental assessments of Site property prior to acquiring the Site property?
17. Please explain your corporate relationship with TK Holdings, Inc.
18. Please explain your corporate relationship with BGF Industries, Inc.
17. Identify all persons who may have knowledge, information, or documents about the materials disposed or buried on the property.
18. Do you have reason to believe that there may be persons able to provide a more detailed or complete response to any Question contained herein or who may be able to provide additional responsive documents, identify such persons and the additional information or documents that they may have.
19. For each and every Question contained herein, if any information or documents responsive to this Information Request are not in your possession, custody, or control, identify the persons from whom such information or documents may be obtained.

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## Ware, Ethan

---

**From:** Ware, Ethan  
**Sent:** Tuesday, October 04, 2016 5:11 PM  
**To:** 'rdunnagan@bgf.com'  
**Subject:** HIGHLAND INDUSTRIES: BGF Letter [IWOV-IWOVRIC.FID1622654]

Robby-

Thanks for taking our call today. As discussed, Highlands has been asked as current owner of the former Burlington plant in Cheraw to respond to a release of PCBs from prior operations there, but Highland has not operated any business units involving PCB pigments or finishes. A meeting is scheduled at DHEC (State of South Carolina Department of Health and Environmental Control) for next Thursday at 10:00 am to discuss the most recent round of PCB data. Highland requests BGF be present. It may be beneficial for BGF and Highland to meet after the DHEC meeting. In any event, we think this is an urgent matter for your legal team and are happy to discuss the meeting and DHEC Notice letter with your legal counsel at any time.

Please let us know if BGF or its legal counsel will attend the DHEC meeting or have questions.

Attorneys for Highland Industries, Inc.

Ethan R. Ware.

Ethan Ware  
Attorney  
Williams Mullen  
1441 Main Street, Suite 1250  
Columbia, SC 29201  
T 803.567.4610  
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[eware@williamsmullen.com](mailto:eware@williamsmullen.com)  
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**From:** Childers, Kristie  
**Sent:** Tuesday, October 04, 2016 4:57 PM  
**To:** Ware, Ethan  
**Subject:** BGF Letter





Ltr to R. Dunnagan  
w Attachmen...

Kristie Childers  
Legal Administrative Assistant  
Williams Mullen  
1441 Main Street, Suite 1250  
P.O. Box 8116 (29202)  
Columbia, SC 29201  
T 803.567.4612  
F 803.567.4601  
[kchilders@williamsmullen.com](mailto:kchilders@williamsmullen.com)  
[www.williamsmullen.com](http://www.williamsmullen.com)

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# WILLIAMS MULLEN

Ethan R. Ware  
Direct Dial: 803.567.4610  
eware@williamsmullen.com

October 4, 2016

**VIA ELECTRONIC MAIL & U.S. MAIL**

Robby Dunnagan  
President  
BGF Industries, Inc.  
3802 Robert Porcher Way  
Greensboro, North Carolina 27410

Re: Notification of Liability  
Former Burlington Industries, Inc. Site  
Chesterfield County, South Carolina

Dear Mr. Dunnagan:

We represent Highland Industries, Inc. ("Highland"). We are writing to notify BGF Industries, Inc. ("BGF") and related entities of potential liability for contamination of residences and industrial properties at or near Cheraw, South Carolina, and request your participation at a meeting with the South Carolina Department of Health and Environmental Control (DHEC) to discuss the contamination. This is an urgent legal matter and we request it receive immediate attention.

**BACKGROUND**

Former Burlington Industries, Inc. ("Burlington") owned and operated a fiberglass dyeing and finishing facility in Cheraw, South Carolina ("Site"). From 1961 to about 1970, the company discharged a "green fluid" into the Western Ditch along the Burlington property line without pretreatment; the Western Ditch drains through a nearby neighborhood ("the Neighborhood") to the Great Pee Dee River. The discharge may have reached 250,000 gallons per day (gpd). From 1970 to 1974, the Burlington Facility installed a series of pretreatment tanks, no-discharge ponds, and sludge drying beds to manage the wastewater prior to discharge to a local publicly owned treatment works (POTW). Corporate records indicate Burlington conveyed the Cheraw fiberglass business to BGF, and in 1988, Highland purchased the plant and remaining textile industrial fabrics business.

On September 16, 2016, Highland received the enclosed DHEC General Notice Letter ("Highland Letter"). [Attachment A]. The Letter states DHEC discovered high levels of polychlorinated biphenyls (PCBs) and pesticides throughout the Neighborhood adjoining the Western Ditch, the former Burlington plant Site, and the area where wastewater ponds and sludge drying beds existed. DHEC reported the PCB levels in the Neighborhood adjoining the former Burlington Site are the highest ever recorded in the State of South Carolina. Leaflets provided to residents in the area state the toxicological risks of PCBs to human health and warn residents of the Neighborhood not to enter contaminated areas. [Attachment B].

### **NOTIFICATION OF LIABILITY**

Pursuant to The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as the federal "Superfund" law, DHEC and EPA are responsible for responding to the release or threat of release of hazardous substances, pollutants, or contaminants into the environment. PCBs and pesticides detected at the Site and the Neighborhood are listed as hazardous substances. EPA and DHEC documented the release of PCBs and pesticides occurred at the Site and spent, or is considering spending, public funds to investigate and control releases of hazardous substances or potential releases of hazardous substances at the Site.

Based on information presently available, Highland has determined your company may be responsible under CERCLA for cleanup of the Site or costs EPA and DHEC incurred investigating the Site. Under CERCLA, specifically Sections 106(a) and 107(a), potentially responsible parties (PRPs) may be required to perform cleanup actions to protect the public health, welfare, or the environment. PRPs may also be responsible for costs incurred by EPA or a State cleaning up the Site, unless the PRP can demonstrate divisibility or assert one of the statutory defenses. PRPs include current and former owners and operators of a Site, successors in interest to former owners or operations of a Site, and persons who arranged for treatment and/or disposal of any hazardous substances found at the Site.

Based on the information collected, Highland believes BGF may be liable under Section 107(a) of CERCLA with respect to the Site, as an (1) arranger, who by contract or agreement, arranged for the disposal, treatment, or transportation of PCBs and pesticides at the Site or (2) current or previous owner and/or operator of the Site as a successor to Burlington.

To date, DHEC and EPA have undertaken the following response action[s] at the Site under the authority of the Superfund Program:

1. Site Reconnaissance (January, 2016);
2. Sediment and Soil Sampling and Analysis (August 12, 2016) [Attachment C]
3. Supplemental Sampling and Analysis (September 12, 2016); and
4. Notifications of PCB Results to specific residents in the Neighborhood (September 16, 2016) [Attachment D].

### **REQUESTED ACTION**

A meeting is scheduled October 13, 2016, at 10:00 A.M. with Sarah Bazemore, Esquire, Assistant General Counsel, DHEC, to discuss the response action and related information to the release of PCBs and pesticides at the former Burlington plant site. We request you or your representative be present. DHEC is located at the following address:

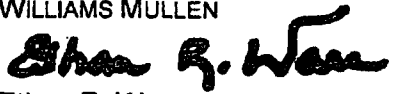
South Carolina Department of Health and Environmental Control  
2600 Bull Street  
Columbia, South Carolina

We understand EPA and DHEC intend to initiate immediate response actions in the Neighborhood, if BGF and/or Highland are not willing to meet or unable to participate in discussions on the Site.

Page 3

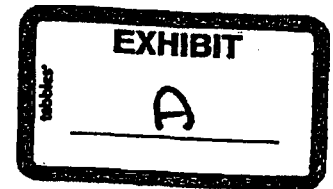
Please feel free to have your legal advisors contact us, if there are any questions. We would appreciate you letting us know if BGF intends to participate in the October 13, 2016, DHEC meeting before close of business on October 11, 2016.

Sincerely,  
WILLIAMS MULLEN

  
Ethan R. Ware

ERW:kc  
Attachments





September 16, 2016

**Via Email and US Mail**

Ms. Cheryl D. Malloy  
Vice President, EHS  
TK Holdings, Inc.  
1350 Bridgeport Drive, Suite 1  
Kernersville, NC 27284

**Re: Highland Industries Facility (former Burlington Industries Cheraw) Site  
General Notice Letter  
Chesterfield County, South Carolina**

Dear Ms. Malloy:

Thank you for taking the time on Monday to discuss the South Carolina Department of Health and Environmental Control's (the Department) ongoing investigation of the release of hazardous substances, pollutants, or contaminants at and in the vicinity of the Highland Industries, Inc., Cheraw (former Burlington Industries Cheraw) facility (or Site) located at 650 Chesterfield Highway, Cheraw, SC. As we discussed, the Department's ongoing environmental investigation has identified high levels of polychlorinated biphenyls (PCBs) and pesticides at numerous locations, including soils on the facility property, at multiple nearby residences, and in sediments of the drainage ditch/creek which originates from the northwest portion of the facility and heads downgradient to the north of the facility. Based on these findings, the Department has determined the Site meets the National Oil and Hazardous Substances Pollution Contingency Plan (NCP, 40 CFR, part 300) criteria for a time-critical removal action. For your information, a copy of the Department's sampling results and a KMZ file with sampling locations will be forwarded to you electronically.

As we discussed, the Department is continuing to investigate the extent of PCB and pesticide contamination and will be collecting additional samples during the week of September 19, 2016. The Department is also investigating the ability and willingness of persons connected with the contamination to perform additional response/cleanup actions.

#### **General Notice of Potential Liability**

This letter is to notify you of potential liability that Highland Industries, Inc., and TK Holdings, Inc., and any parent, subsidiary, successor, predecessor, or related parties (hereinafter collectively referred to as "Highland" or "Takata") may incur or may have incurred with respect to the Site. Based on information received during the investigation of the Site, the Department

Ms. Cheryl D. Malloy  
September 16, 2016  
Page 2

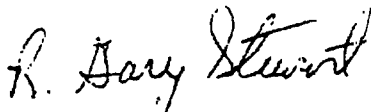
believes that Highland may be a responsible party under CERCLA § 107(a), 42 U.S.C. § 9607(a). Liability is defined by CERCLA § 107(a), as adopted by the South Carolina Hazardous Waste Management Act, S.C. Code Ann. § 44-56-200. Potentially Responsible Parties (PRPs) under CERCLA and state law generally include the following: 1) the current owners and operators of the facility; 2) any person who at the time of disposal of any hazardous substances owned or operated any facility at which hazardous substances were disposed of; 3) any person who by contract, agreement, or otherwise arranged for disposal or treatment, or arranged with a transporter for transport for disposal or treatment, of hazardous substances owned or possessed by such person or by any other party or entity at the facility; and 4) any person who accepts or accepted any hazardous substances for transport to disposal or treatment facilities and selected such facilities.

This letter also provides notice to Highland that, due to the time-critical nature of the response actions, the Department is **not** using the special notice procedures of CERCLA § 122(e), 42 U.S.C. § 9622(e) to formally negotiate terms of an agreement or settlement to conduct site response activities. As we discussed on the phone, the Department is interested in meeting with Highland to discuss the findings of our investigation and the potential involvement of Highland in future response actions. The Department suggests meeting during the week of September 19 and will be in contact to coordinate a date and time.

Because the Site poses a hazard to human health and the environment, the Department recommends that you give this matter your immediate attention. Should Highland wish not to address the contamination at the Site, the Department will evaluate other alternatives for addressing the Site through the State and Federal Superfund Programs.

If you have any questions regarding this matter, you may contact me at 803-898-0778 or Ken Taylor at 803-898-0835. Thank you for your attention to this issue.

Very truly yours,



R. Gary Stewart, P.E., Manager  
State Remediation Section  
Bureau of Land and Waste Management

Cc: Buck Graham, Pee Dee Regional Office  
G. Kendall Taylor, BLWM  
Judy Canova, BLWM  
David Wilkie, BLWM  
Sara Bazemore, OGC  
BLWM File 58341

Sample Location ID	Date	Chloride Reading	PCB Screening Results (ppm)	Aroclor 1248 (Lab ppm)	Aroclor 1254 (Lab ppm)	Total PCBs Lab results (ppm)
Blank 000	8/22/2016	4.8	10.6			0.000
SAND	8/22/2016	1.04	2.3			0.000
BL-SD-01	8/22/2016	49.7	110	550.000	360.000	910.000
BL-DS-01	8/22/2016	62.4	138			0.000
BL-SD-1B	8/23/2016	5.46	*12.1	160.000		160.000
BL-DS-1B	8/23/2016	21.9	48.6	230.000		230.000
BL-SD-02	8/22/2016	16.2	36.0			0.000
BL-DS-02	8/22/2016	20.4	45.2			0.000
BL-SD-2B	8/23/2016	23.2	51.4			0.000
BL-DS-2B	8/23/2016	18.4	40.9			0.000
BL-SD-03	8/22/2016	NA	56.6			0.000
BL-DS-03	8/22/2016	19.3	42.8			0.000
BL-SD-04	8/22/2016		79.1	260.000	240.000	500.000
BL-DS-04	8/22/2016	34.4	76.3	560.000	450.000	1010.000
BL-SD-04	8/22/2016	72.9	161	780.000	730.000	1510.000
BL-SD-05	8/22/2016	66.4	147	150.000	150.000	300.000
BL-DS-05	8/22/2016	69.0	153			0.000
BL-SD-06	8/22/2016	108	240	1000.000	660.000	1660.000
BL-DS-06	8/22/2016	247	547	1900.000	880.000	2780.000
BL-SD-07	8/23/2016	78.4	173			0.000
BL-DS-07	8/23/2016	79.1	175			0.000
BL-SD-08	8/23/2016	32.9	73.1			0.000
BL-DS-08	8/23/2016	34.8	77.1			0.000
BL-SD-09	8/23/2016	76.5	169	340.000	260.000	600.000
BL-DS-09	8/23/2016	238	528	1300.000	710.000	2010.000
BL-SD-10	8/23/2016	14	31.1			0.000
BL-DS-10	8/23/2016	37	82.0			0.000
BL-SD-11	8/23/2016	30.9	68.5			0.000
BL-DS-11	8/23/2016	NA	23.6			0.000
BL-SS-11A	8/25/2016	24.4	54.2			0.000
BL-SB-11A	8/25/2016	1.74	3.87			0.000
BL-SD-12	8/23/2016	0.6	1.34			0.000
BL-DS-12	8/23/2016	1.05	2.34			0.000
BL-SD-13	8/23/2016	13.9	30.8	110.000	73.000	183.000
BL-DS-13	8/23/2016	44.9	99.7	81.000	56.000	137.000

BL-SD-14	8/23/2016	16.9	37.6			0.000
BL-DS-14	8/23/2016	49.8	110	85.000		85.000
BL-SD-15	8/23/2016	13	28.8			0.000
BL-DS-15	8/23/2016	17	37.8			0.000
BL-SD-16	8/23/2016	17	*37.7	89.000	70.000	159.000
BL-DS-16	8/23/2016	19.5	*43.3			0.000
BL-SD-17	8/23/2016	6.95	15.4			0.000
BL-DS-17	8/23/2016	12.9	28.7			0.000
BL-SD-18	8/23/2016	5.37	11.9	250.000		250.000
BL-DS-18	8/23/2016	34.3	76.1	110.000	82.000	192.000
BL-SD-19	8/23/2016	1.12	2.49	0.100		0.100
BL-SD-19 DUP?				0.047	0.045	0.092
BL-DS-19	8/23/2016	1.33	2.95	0.067		0.067
L-POOP-19	8/23/2016	0.79	1.75			0.000
BL-SD-20	8/23/2016	0.65	*1.45			0.000
BL-DS-20	8/23/2016	2.03	*4.5			0.000
BL-SD-21	8/23/2016	1.01	2.24			0.000
BL-DS-21	8/23/2016	1.00	2.23			0.000
BL-SD-22	8/24/2016	0.8	*1.79			0.000
BL-DS-22	8/23/2016	1.63	3.63			0.000
BL-SD-23	8/23/2016	1.03	2.29			0.000
BL-DS-23	8/23/2016	1.04	2.31			0.000
BL-SD-24	8/23/2016	1.19	2.64			0.000
BL-DS-24	8/23/2016	0.72	1.60			0.000
BL-SB-24	8/24/2016	NA	2.73			0.000
BL-SD-25	8/23/2016	1.24	2.75			0.000
BL-DS-25	8/23/2016	1.12	2.48			0.000
BL-SD-26	8/24/2016	NA	DNM			0.000
BL-DS-26	8/24/2016	NA	DNM			0.000
BL-SS- 27A	8/24/2016	2.71	6.00			0.000
BL-SB- 27A	8/24/2016	3.06	6.78			0.000
BL-SB- 27A-24	8/24/2016	2.09	4.64			0.000

BL-SS-27B	8/24/2016	4.52	10			0.000
BL-SB-27B	8/24/2016	0.9	2.00			0.000
BL-SS-27C	8/24/2016	1.17	2.59			0.000
BL-SB-27C	8/24/2016	1.47	3.26			0.000
BL-SS-27D	8/24/2016	5.14	11.4	68.000	37.000	105.000
BL-SB-27D	8/24/2016	4.91	10.8			0.000
BL-SS-27E	8/24/2016	4.76	10.5			0.000
BL-SS-27F	8/24/2016	2.48	5.5			0.000
BL-SB-27F	8/24/2016	1.81	4.01			0.000
BL-SB-27G	8/24/2016	1.73	3.83			0.000
BL-SS-28	8/24/2016	136	301	1500.000	1300.000	2800.000
BL-SB-28	8/24/2016	91.3	202	82.000	67.000	149.000
BL-SS-29	8/24/2016	0.77	1.70			0.000
BL-SB-29	8/24/2016	0.67	1.50			0.000
BL-SS-30A	8/24/2016	0.95	2.11			0.000
BL-SB-30A	8/24/2016	0.78	*1.73			0.000
BL-SS-30B	8/24/2016	0.79	*1.75			0.000
BL-SB-30B	8/24/2016	1.36	3.01			0.000
BL-SS-31	8/24/2016	1.62	3.59			0.000
BL-SB-31	8/24/2016	NA	2.55			0.000
BL-SS-32	8/24/2016	NA	*6.82			0.000
BL-SS-33	8/24/2016	2.6	*5.76			0.000
BL-SB-33	8/24/2016	NA	2.24			0.000
BL-SS-34	8/24/2016	5.27	11.6			0.000
BL-SB-34	8/24/2016	2.52	5.59			0.000

BL-SS-35	8/24/2016	1.16	2.58			0.000
BL-SB-35	8/24/2016	2.35	5.23			0.000
BL-SS-36	8/24/2016	0.9	1.99			0.000
BL-SB-36	8/24/2016	NA	**64.4			0.000
BL-SS-37	8/24/2016	0.19	0.42			0.000
BL-SB-37	8/24/2016	1.08	2.39			0.000
BL-SS-38	8/24/2016	1.35	3.00			0.000
BL-SB-38	8/24/2016	1.69	3.76			0.000
BL-SS-39	8/24/2016	8.79	19.4	0.020	0.027	0.047
BL-SB-39	8/24/2016	NA	1.43			0.000
BL-SS-40	8/24/2016	1.18	2.62			0.000
BL-SB-40	8/24/2016	2.79	6.19			0.000
BL-SS-41	8/24/2016	1.69	3.75			0.000
BL-SB-41	8/24/2016	1.32	2.93			0.000
BL-SS-42	8/24/2016	2.07	4.59			0.000
BL-SB-42	8/24/2016	2.03	4.50			0.000
BL-SS-43	8/24/2016	1.69	3.76			0.000
BL-SB-43	8/25/2016	1.43	3.17			0.000
BL-SS-44	8/25/2016	2.81	6.24			0.000
BL-SB-44	8/25/2016	0.75	1.66			0.000
BL-SS-45	8/25/2016	1.16	2.57			0.000
BL-SB-45	8/25/2016	1.37	3.04			0.000
BL-SS-46	8/24/2016	1.99	4.42			0.000
BL-SS-47	8/24/2016	1.92	4.27			0.000
BL-SB-47	8/24/2016	1.24	2.76			0.000

BL-SS-48	8/25/2016	30.1	66.7	490.000	590.000	<b>1080.000</b>
BL-SS-48A	8/25/2016	1.33	2.95	4.900	7.900	<b>12.800</b>
BL-SS-48B	8/25/2016	1.39	3.09	4.100	6.700	<b>10.800</b>
BL-SS-51	8/25/2016	0.63	1.41			<b>0.000</b>
BL-SS-52	8/25/2016	3.51	7.79	41.000	63.000	<b>104.000</b>
BL-SS-52A	8/25/2016	1.44	3.21	110.000	110.000	<b>220.000</b>
BL-SS-52B	8/25/2016	0.76	1.69			<b>0.000</b>
BL-SS-52B	8/25/2016	1.00	2.22			<b>0.000</b>
BL-SS-53	8/25/2016	16.1	35.8	42.000	48.000	<b>90.000</b>
BL-SS-53A	8/25/2016	0.6	1.33			<b>0.000</b>
BL-SS-54	8/25/2016	0.74	1.65			<b>0.000</b>
BL-SS-55	8/25/2016	0.76	1.70			<b>0.000</b>
BL-SS-57	8/25/2016	0.79	1.77	4.500	3.700	<b>8.200</b>
BL-SS-58	8/24/2016	3.84	8.52	12.000	7.400	<b>19.400</b>
BL-SS-59	8/24/2016	1.49	3.30		0.033	<b>0.033</b>
BL-SS-63	8/25/2016	0.89	1.98	<0.011	<0.011	<b>&lt;0.11</b>
BL-SB-63	8/24/2016	1.1	2.45			<b>0.000</b>
BL-SS-66	8/25/2016	1.58	3.50			<b>0.000</b>
BL-SS-67	8/24/2016	1.6	3.55	1.700	2.200	<b>3.900</b>
BL-SS-67 DUP	8/24/2016			1.200	1.600	<b>2.800</b>
BL-SB-67	8/24/2016	2.7	5.98			<b>0.000</b>
BL-SS-70	8/25/2016	1.32	2.92	37.000	48.000	<b>85.000</b>
BL-SS-73	8/25/2016	1.84	*4.09		2.400	<b>2.400</b>
BL-SS-74	8/25/2016	2.99	*6.64	2.100	5.300	<b>7.400</b>
BL-SS-75	8/25/2016	28.9	64	160.000	180.000	<b>340.000</b>

# ALSTON & BIRD L.L.P.

One Atlantic Center  
1201 West Peachtree Street  
Atlanta, GA 30309-3424

404-881-7000  
Fax: 404-253-8424  
www.alston.com

Douglas S. Arnold

Direct Dial: 404-881-7637

Email: Doug.Arnold@alston.com

October 6, 2016

## VIA EMAIL

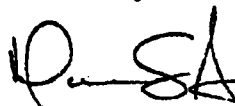
Mr. Ethan R. Ware  
Williams Mullen  
1441 Main Street, Suite 1250  
Columbia, SC 29201  
Phone: 803.567.4610  
eware@williamsmullin.com

Re: Highland Industries Facilities Site  
Chesterfield County, South Carolina

Dear Ethan:

We represent BGF Industries, Inc. I am traveling this week, but have received a copy of your October 4th letter regarding the above-referenced matter. I have not yet had an opportunity to review the almost 200 pages of exhibits that accompanied your letter, but understand that your client, Highland Industries, is scheduled to meet on October 13<sup>th</sup> with the South Carolina Department of Health and Environmental Control. Based on the information presented in your letter, it does not seem necessary or appropriate for BGF to attend that meeting. However, when I am back in the office next week, I would be glad to discuss this matter with you. Also, I would appreciate it if you would send all further communications to my attention.

Sincerely,

 w/ express permission  
by HOC

Doug S. Arnold



# WILLIAMS MULLEN

Ethan R. Ware  
Direct Dial: 803.567.4610  
eware@williamsmullen.com

October 27, 2016

**VIA Electronic and U.S. MAIL**

Mr. Douglas S. Arnold  
Alston & Bird, LLP  
One Atlantic Center  
1201 West Peachtree Street  
Atlanta, GA 30309-3424  
Doug.Arnold@alston.com

Re: Former Burlington PCB Site  
650 Chesterfield Highway  
Cheraw, South Carolina  
Chesterfield County

Dear Doug:

As you may recall, we represent Highland Industries, Inc. in response to a Notice of Liability issued by the South Carolina Department of Health and Environmental Control (DHEC) for a release of PCB in Cheraw, South Carolina. We requested your client, BGF Industries, Inc., attend an October 13, 2016, meeting at DHEC to discuss the scope and extent of contamination at or near the Former Burlington PCB site; your client declined to voluntarily attend.

Enclosed is a Community Meeting Notice published by DHEC on October 25, 2016. The Community Meeting Notice states DHEC will hold a community meeting November 2, 2016, at Long Middle School (7:00 p.m.) in Cheraw "to discuss the [PCB contamination] data and the next steps." We encourage BGF Industries, Inc. to attend.

Please feel free to call if you have any questions. In the meantime, if you wish to discuss this matter directly with DHEC, BGF Industries, Inc. should contact Sara Bazemore, Esq. at 803-898-3350

Sincerely,  
WILLIAMS MULLEN

  
Ethan R. Ware

ERW:kc  
Enclosure

32248124.1



S.C. Department of Health and  
Environmental Control

## **Community Meeting Notice**

### **Environmental Contamination Investigation at Former Burlington Industrial Fibers James Plant**

This notice is being released jointly by the South Carolina Department of Health and Environmental Control (DHEC) and the Town of Cheraw and is intended for the residents of Cheraw.

DHEC has recently discovered polychlorinated biphenyls (PCBs) and other chemical contamination in a drainage ditch behind the former Burlington Industrial Fibers James Plant located at 650 Chesterfield Highway in Cheraw, S.C. Contamination has also been found in sediments and soils in and along the ditch downstream to the Great Pee Dee River three miles away. This includes the downstream portions of Wilson's Branch and Huckleberry Branch. PCBs are man-made chemicals that were manufactured and used in many industrial applications from 1929 until they were banned from being made in the United States in 1979. The reason that PCBs were banned was because of concern for the lasting effects they have on the environment.

It is believed the PCB discharge occurred between 1961 and 1972 when the Town of Cheraw did not have a sanitary sewer system in place, and Town of Cheraw officials were not aware of any environmental contamination discharge.

The presence of PCBs was also confirmed in surface soils and creek sediments in Huckleberry Park located about one mile downstream from the former Burlington Plant. To protect public health and out of an abundance of caution, the Town of Cheraw and DHEC have temporarily closed the park while DHEC's investigation continues. The Town of Cheraw has posted signs and put up barrier tape around the park until the investigation into the contamination is finished and clean-up has taken place.

DHEC is currently conducting additional sampling in the area in order to fully determine the extent of the contamination and has requested assistance from the U.S. Environmental Protection Agency (EPA) in this ongoing investigation.

The first priority of both DHEC and the Town of Cheraw is ensuring the safety of residents and keeping the local community informed as our investigation progresses. **DHEC will hold a community meeting on November 2, 2016 at Long Middle School in Cheraw at 7 p.m., to discuss the data and the next steps.**

If you should have questions concerning this investigation or upcoming community meeting, please contact Leigh Plummer in DHEC's local Florence Office at (843) 661-4825, or by e-mail at [plummelw@dhec.sc.gov](mailto:plummelw@dhec.sc.gov).